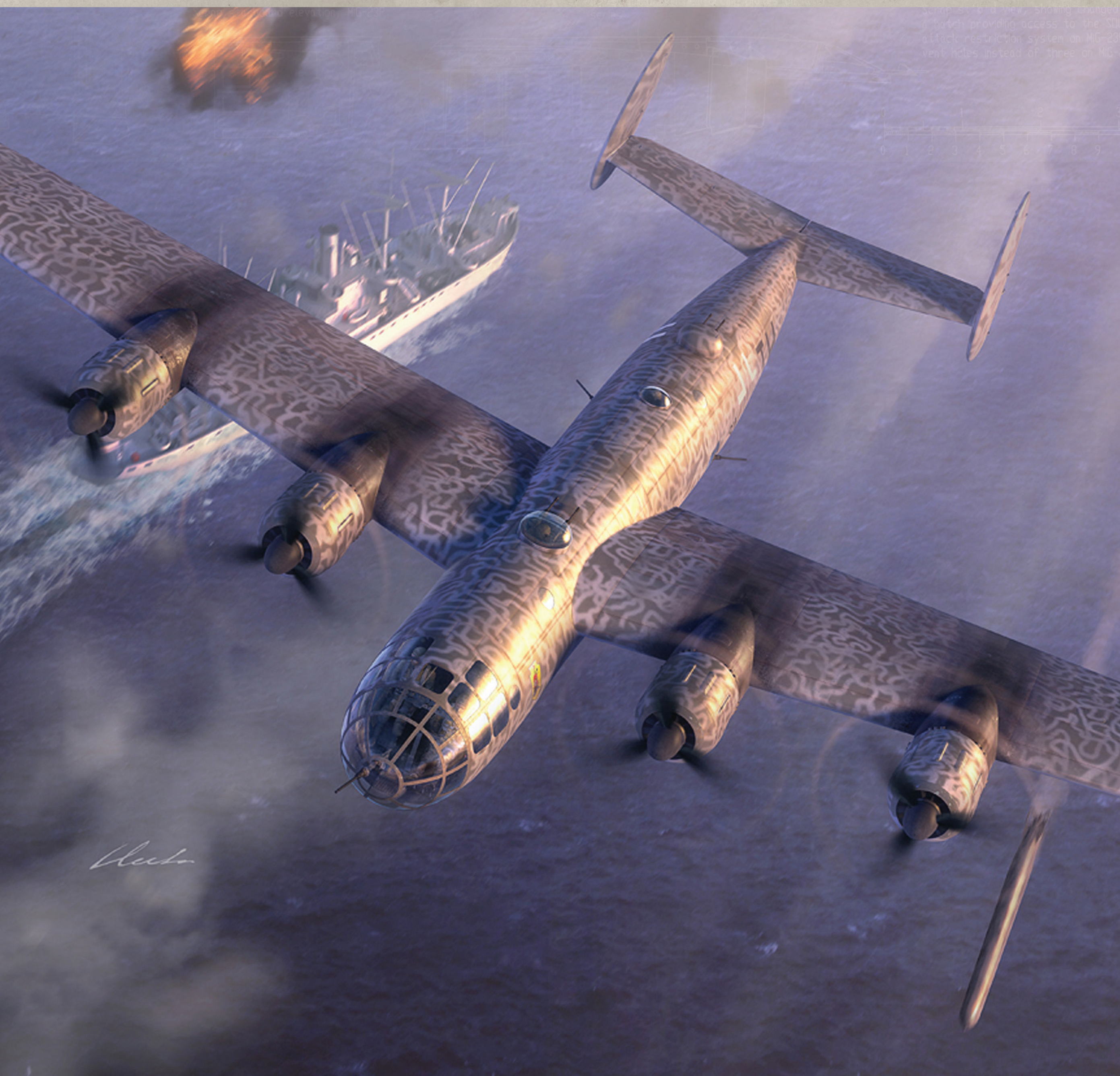
X PLANES

No:2

Robert Forsyth

MESSERSCHMITT Me 264
AMERIKA BOMBER



AUTHOR

Robert Forsyth has studied the history of the Luftwaffe and its campaigns, units, aircraft, and commanders for many years. He is the author of several books on the subject and runs a book production and publishing business in southern England. This is his eighth book for Osprey, which is based on extensive archive research in Europe and the USA.

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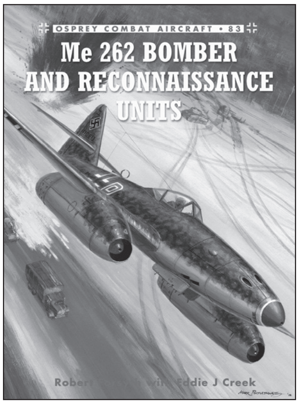
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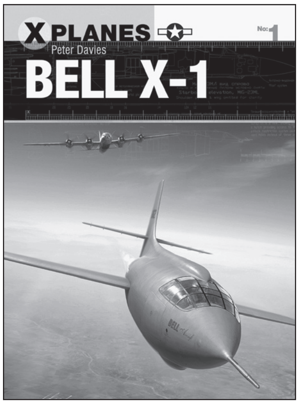
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Robert Forsyth

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Front Cover
Gareth Hector's specially commissioned artwork depicts a Messerschmitt Me 264 of the Luftwaffe's long-range reconnaissance unit, *Fernaufklärungsgruppe* 5 (FAGr 5), its four BMW 801 engines at full power, as it flies low over the waters of the Atlantic just after releasing its second LT F5B torpedo at a convoy of American Liberty ships off the East Coast of the USA in 1945. Due to its long-range operational experience, FAGr 5 was one of the units the Luftwaffe planned to equip with Me 264s. The aircraft is seen here finished in a typical Luftwaffe over-water 'scribble' camouflage scheme.

Acknowledgements
In assembling and telling the story of the Messerschmitt Me 264, I was assisted greatly by Eddie J. Creek, Stephen Walton, Isolde Baur and J. Richard Smith. My thanks to all.

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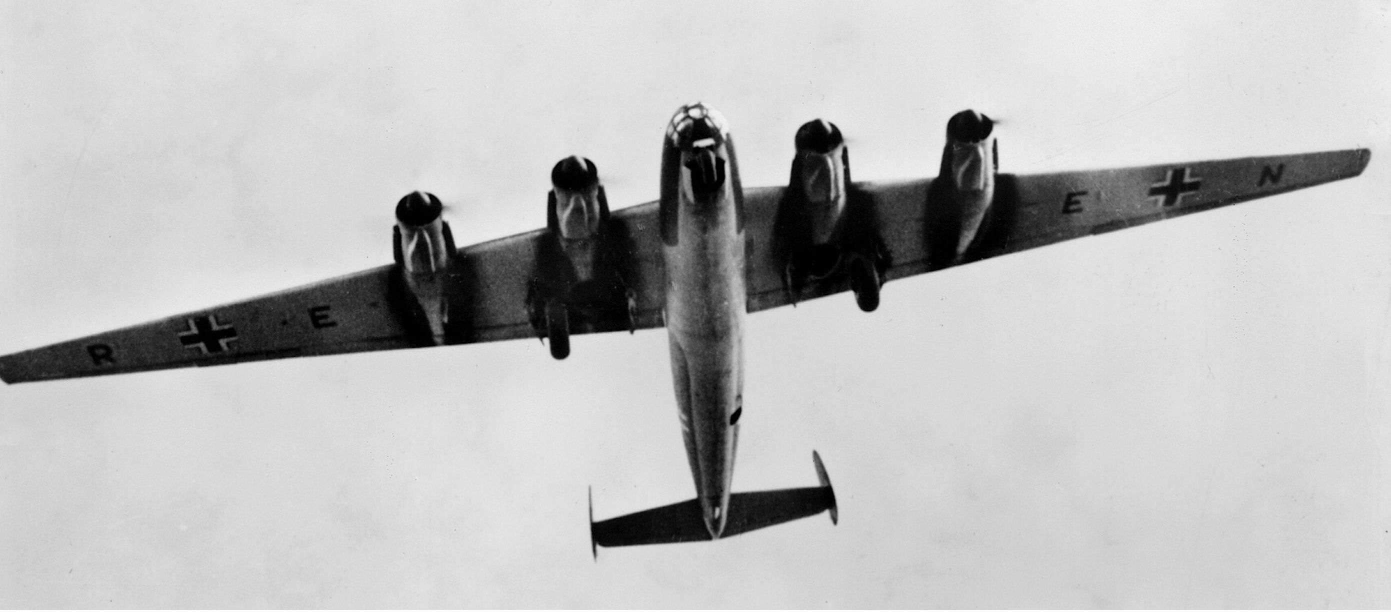


CHAPTER ONE

INTRODUCTION

The graceful form of the Me 264 V1 photographed during a test flight over southern Germany in early 1943 with its main wheels lowered. From that year, the aircraft gave Nazi Germany the ability to wage offensive air warfare against the United States.

On 4 April 1941, two days before the German invasion of Yugoslavia and Greece, the *Führer*, Adolf Hitler, met with the visiting Japanese Foreign Minister, Yosuke Matsuoka, in Berlin. Both men were in an openly belligerent mood as their conversation turned to a subject neither could ignore – the United States of America. The *Führer* assured Matsuoka that Germany would wage 'a vigorous war against America', deploying its U-boats and the Luftwaffe against US targets. 'The American Republic,' Hitler warned, 'would have to be dealt with severely.' In this he was confident, scoffing at any suggestion of American military superiority over the Axis.

Hitler believed he would soon have the weapon he needed to take his war directly to the American heartland – or at least to the East Coast. In the summer of 1940, following his conquests in Western Europe and Scandinavia, and after the British had been driven off the beaches of Dunkirk, he boasted to the Italian dictator, Benito Mussolini, that by the end of 1941 Germany would have a fleet of new Messerschmitt heavy bombers ready to attack the USA.

Was this – technologically, if not militarily – a pipe dream? Probably. But two years earlier, a prototype of the four-engined Focke-Wulf Fw 200 Condor airliner had flown non-stop across the Atlantic from Germany to land at Floyd Bennett Field in New York, its tail resplendent with a large swastika. This record-breaking flight was met by an excited American press amid the flash of camera bulbs, but it also prompted alarm bells to ring within the highest echelons of the US Army Air Corps, where it was realised that the Condor could be easily converted into a long-range bomber.

On 20 June 1940, as he travelled to attend armistice negotiations with the French, Hitler met with Admiral Erich Raeder, the Commander-in-Chief of the *Kriegsmarine*, with whom he discussed the possibilities and practicalities of long-range warfare. Senior German commanders understood that there was a distinct possibility of the United States entering the war, and Raeder urged the *Führer* to occupy French West Africa, followed quickly by the Atlantic islands of Iceland, the Azores and the Canaries before the Americans took them.

With Britain struggling to transport its vital war supplies, Prime Minister Winston Churchill had been pushing President Franklin D. Roosevelt for increased materiel support for the fight against Germany in the form of more naval and merchant tonnage, and ship repair and docking facilities on the US Eastern Seaboard. Roosevelt had acceded to the British Prime Minister's request – an act, as far as Hitler was concerned, on the part of the Americans that clearly infringed their position towards Germany under the terms of neutrality then in force. Hitler viewed it as being tantamount to a prosecution of war against Germany, but at the time he lacked any weapon with which to take action to prevent American intervention.

On 15 November 1941 at a conference at the *Führer*'s headquarters, it was noted that there was a need for a 'bomber with a range of 6,000km' that would be capable of operating from landing grounds in the Azores. These islands had already been used by Luft Hansa before the war as a refuelling stop for its transatlantic airliners. Indeed, by the winter of 1940, Hitler had recognised that the Azores – lying some 1,500km west of Lisbon – offered him the only viable base from which he could attack the United States with 'long-range Messerschmitts', thus forcing the Americans to set up their own air defence systems at the expense of helping the British. On 29 October 1940, a Luftwaffe liaison officer with OKW (*Oberkommando der Wehrmacht* – Supreme Command of the Armed Forces) had issued a memorandum in which it was stated:

> 'The *Führer* is at present occupied with the question of the occupation of the Atlantic islands with a view to the prosecution of a war against America at a later date. A brief assessment of the possibility of seizing and holding air bases and of the question of supply is needed from the Luftwaffe.'

Hitler also discussed with OKW the need for a long-range bomber that could operate in support of the U-boat 'wolf packs' *and* conduct operations against the United States. The worsening tensions with America and the increasing likelihood of air operations over the Atlantic thus prompted the RLM (*Reichsluftfahrtministerium* – Ministry of Aviation) to issue a requirement for an ultra-long-range bomber that could fly 12,000km and undertake so-called

Mid-town Manhattan looking north-east towards the Chrysler Building in the 1930s. Although there was never the prospect of the Me 264 being available in great numbers, bombs dropped accurately on a target such as New York City, with its prominent and densely formed architecture, could have had devastating results.

'Amerika Fall' flights from the western coast of France to New York and back.

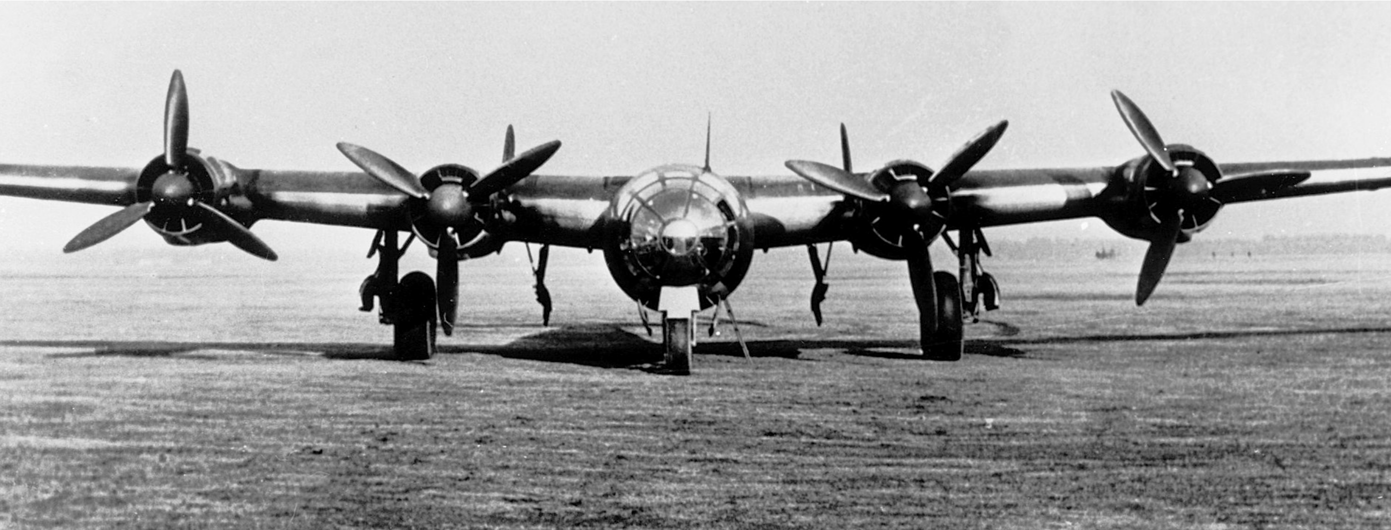
But Hitler's boast to Mussolini about Messerschmitt bombers most likely stemmed from a visit the *Führer* made to the company's works at Augsburg back in November 1937, during which the firm's ambitious owner, Professor Willy Messerschmitt, had shown him something intriguing. As the *Führer* toured the factory, Messerschmitt guided him from one of the assembly halls towards two giant hangar doors. The aircraft-builder signalled for them to be opened. Beyond was a mock-up of a very large four-engined aircraft. This was probably a strategic bomber project known as the 'Bf 165', which Messerschmitt viewed as a contender to competing Dornier and Junkers designs. Hitler listened as Messerschmitt explained that the mock-up represented a potential four-engined, long-range bomber, able to fly 6,000km and intended to carry a one-ton bomb load at 600km/h.

Hitler – who understood relatively little about aircraft – merely made the observation that if a fighter could attain 600km/h, then a bomber would need to reach 650km/h, meaning that armour and weapons would have to be sacrificed in order to gain speed. Messerschmitt responded archly that high speed was not possible at that stage because of insufficient power from the engine types then available. At the time, Hitler believed, mainly as a result of the desire of Generaloberst Hermann Göring, as Commander-in-Chief of the Luftwaffe, to offer encouraging production figures based on the Ju 88, that a twin-engined fast bomber was preferable and would save on raw materials. Hitler moved on and the subject was closed.

But Messerschmitt was not put off in his determination to build a spectacular, four-engined, long-range aircraft that would be capable of flying across oceans and reaching other continents – and if there was a need for a military version of such an aircraft that would help him realise his ambition all the better.

Although Hitler would have to wait another year beyond his boast to Mussolini, before 1942 was out, Messerschmitt would give the Luftwaffe a bomber that was capable of attacking the major cities and industrial regions of the United States – an '*Amerika Bomber*'.

The Me 264 had a very low ground profile, and there was minimal clearance for the propeller blades of its four 12-cylinder, liquid-cooled Junkers Jumo 211J-1 engines. Note the access ladder visible on the left side of the glazed nose/cockpit and the lowered nose- and mainwheel doors.



CHAPTER TWO

ORIGINS

The Me 261 V1 made its first flight on 23 December 1940. In this aircraft, Messerschmitt wanted to create a powerful, long-distance, multi-role machine with a range of 11,000km. Design and fuel accommodation restrictions served to thwart his plans and only three prototypes were ever completed.

Throughout his early and wartime career as an aircraft designer, Professor Willy Messerschmitt was attracted by the qualities of speed and range, an attraction that occasionally bordered on reckless obsession. To attain these qualities in his designs, Messerschmitt was known to cut weight wherever possible – even if that introduced an element of risk. As early as the spring of 1931, this practice was alleged to have resulted in the deaths of eight *Reichswehr* officers when a Messerschmitt-designed Luft Hansa BFW M 20 airliner crashed in mysterious circumstances. At the time, the managing director of Luft Hansa, Erhard Milch, voiced his opinion that it had been Messerschmitt's weight-cutting measures that had restricted the necessary safety features from being incorporated in the aircraft – an accusation that Messerschmitt denied strenuously, and which gave birth to an everlasting feud between these two strong personalities.

Nevertheless, Messerschmitt had long harboured a desire to build long-range aircraft and, as an example of this, in 1932 he had submitted a proposal for a machine featuring a slim fuselage, a wing similar to that of a sailplane with a 34m span, a cockpit built into the vertical stabiliser at the aft of the fuselage and retractable landing gear. With a single 800hp diesel engine, or two rated at 400hp each, Messerschmitt projected that such an aircraft would possess a range of 20,000km. It would thus be able to reach the Antipodes from Germany, or to fly from any point of the globe to another without refuelling. Although the design never progressed beyond a model, it was a vision that inspired Messerschmitt for many years.

Professor Willy Messerschmitt (centre) discusses technical drawings with Generalfeldmarschall Erhard Milch (left), the State Secretary for Aviation, while to the right of Messerschmitt, Generaloberst Ernst Udet, the Director General of Equipment, looks on. Messerschmitt promised Udet that the first prototype Me 264 would commence flight tests in May 1942. Milch was always doubtful. Also seen here, behind Udet, is Fritz Hentzen, Messerschmitt's Production Manager, who would be closely involved with the construction of the Me 264, and (far right) Hubert Bauer, Director of Operations.

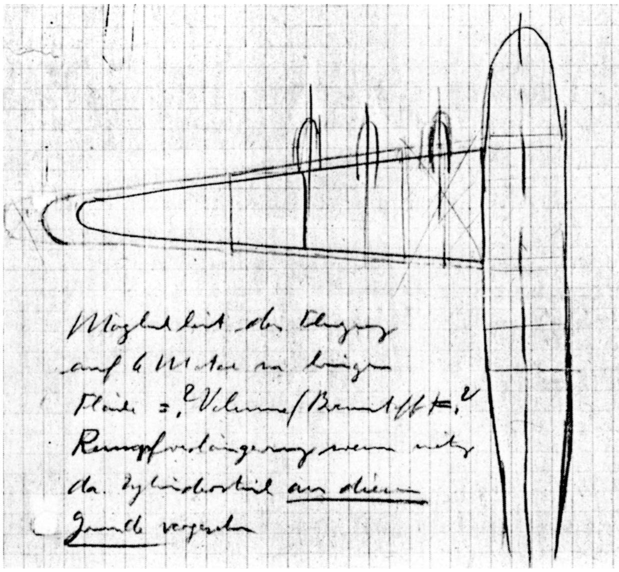
THE BANANA PLANE

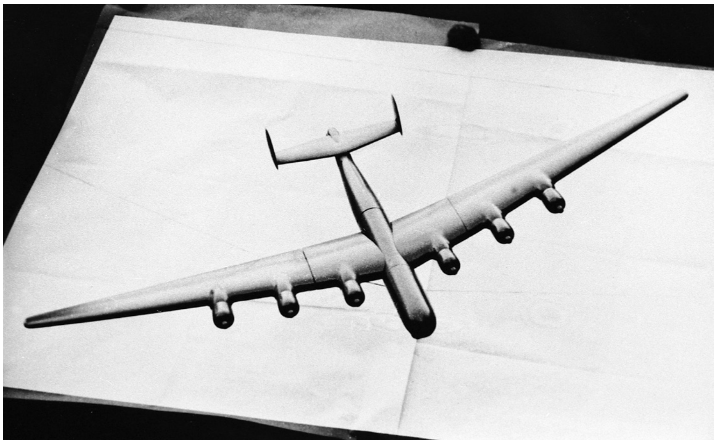
In his quest for range, Messerschmitt progressed from his Bf 165 project of the late 1930s to a high-speed transport that could carry expensive fresh produce from the tropics to Germany – an initiative his design team christened 'The Banana Plane'. Then, in 1938, he began work on a new design known as the P 1062. Backed by Hitler, who recognised its propaganda value, this twin-engined, all-metal aircraft, which was known by the moniker 'Adolfine', was intended to raise the Messerschmitt profile by flying the Olympic torch non-stop from Berlin to Tokyo for the planned Winter Games of 1940. A prototype was built as the Me 261, the aeroplane being powered by two 2,700hp Daimler-Benz DB 606 A/B 24-cylinder engines, each of which was formed by coupling two DB 601 engines side-by-side and connecting them to a single shaft that drove a four-bladed airscrew. The power offered by this arrangement was needed in order to carry the large volume of fuel contained in the aircraft's wing tanks. A range of 11,000km was attainable at economic cruising speed. Although its payload would have been limited, the Me 261 was to have had a crew of five, with bunks housed in its narrow fuselage.

Only three prototypes were ever completed, with the Me 261 V1 making its maiden flight on 23 December 1940. The nemesis of the aircraft was its undercarriage, which suffered from frequent hydraulics problems as well as weak struts and problematic gear doors. Nevertheless, on at least one test flight the machine flew for almost ten hours, covering 4,500km over southern Germany and Austria and accomplishing Messerschmitt's ambition of long-range, long-endurance flying.

German aircraft manufacturers such as Messerschmitt lacked guidance from the Luftwaffe in the mid- to late 1930s in respect of what it wanted in terms of future

Vision and ambition – a sketch by Messerschmitt from February 1942 depicting a design for a six-engined long-range aircraft that bears a resemblance to the shape of the eventual Me 264. Messerschmitt had long been attracted to building aircraft with extended ranges, and his project department turned this sketch into the P 1075 and P 1085 designs.


Möglichkeit der Flugzeug
auf 6 Motoren an längeren
Fläche = 2 Volumen / Brennstoff = 2
Rumpfverlängerung wenn nötig
da Zylinderteil an diesem
Gemälde vorgesehen



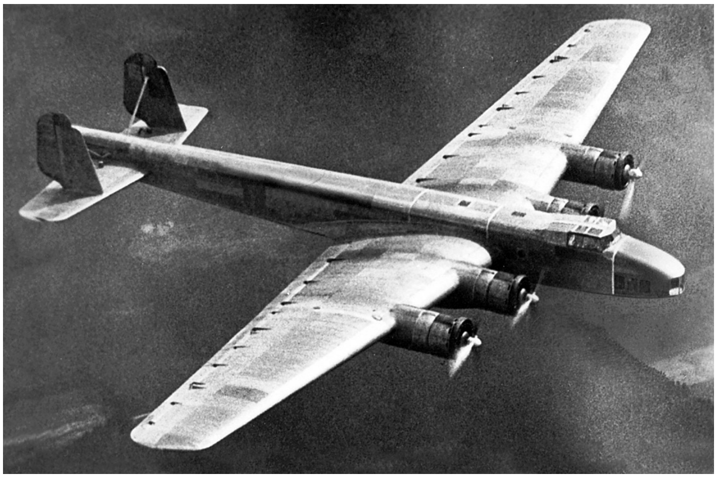
Here, what was proposed in the previous sketch has advanced to model form, the latter probably being intended for wind tunnel testing. In 1941 Messerschmitt planned a six-engined aircraft as the P 1075, intended for ultra-long-range reconnaissance flights to Africa, America and Asia. The plan to designate this design as the Me 364 did not meet with RLM approval since no development contract was issued.

heavy bombers. Indeed, the Luftwaffe was riven by conflicting views on the merits of heavy, long-range, four-engined bombers. Despite what has been published in much literature since World War II, Germany did, in fact, remain committed to the concept of building a strategic bomber fleet from 1933 through to the mid-war years, and the fledgling Luftwaffe's first Chief of Staff, Oberst Walther Wever, played a significant role in fostering this goal.

It was Wever's view that the Luftwaffe would need a multi-engined bomber in order to prosecute effective strategic air warfare in the future. He reasoned that Germany's main enemy would be the USSR. As such, any future war would involve industrial targets deep within the Soviet hinterland, possibly east of the Ural mountains, hence the concept of an ultra-long-range bomber – or '*Ural Bomber*' – was born. Wever subsequently ordered a specification to be issued by the RLM to Junkers and Dornier for an aircraft capable of fulfilling this role. It was a specification that was well in advance of the plans of most of the world's air forces, and it would stretch the resources of the still very young post-war German aircraft industry to its limits – demanding the carrying of a heavy bomb load over a great distance with the benefit of speed and good defensive armament. By May 1934, the development of such a heavy bomber became the Luftwaffe's top priority.

The emerging Dornier Do 19 was a box-like, mid-wing monoplane with twin tail fins, powered by four 715hp Bramo 322 H-2 radial engines and fitted with a retractable undercarriage. The crew of nine comprised pilot, co-pilot/navigator, bomb-aimer, radio operator and five gunners. It was fitted with a nose turret housing a 7.9mm MG 15 machine gun, with another such weapon in the tail and a pair of two-man dorsal and ventral turrets each armed with a 20mm cannon. The prototype flew for the first time on 28 October 1936 without armament, but it was quickly realised that the aircraft was underpowered and that the two-man turrets simply added more weight. The second and third prototypes featured more powerful 810hp Bramo 132 F engines.

By comparison, the Junkers Ju 89 was a better-performing machine, with the V1 fitted with four 1,075hp Jumo 211 engines. The aircraft made its first flight in December 1936, and it was followed by a second prototype in early 1937 that was powered by four Daimler-Benz DB 600 engines. Similar to the Dornier, the Ju 89 was to have been armed with a 7.9mm machine gun in the nose and tail positions and 20mm cannon in dorsal and ventral turrets. However, Oberstleutnant Wilhelm Wimmer, head of the RLM's *Technisches Amt* (Technical Office), who was considered to have the best technical



First flying in October 1936, the Dornier Do 19 was an early attempt at producing a four-engine, long-range strategic bomber for the Luftwaffe, but it was underpowered and within a year, work on the aircraft was cancelled.

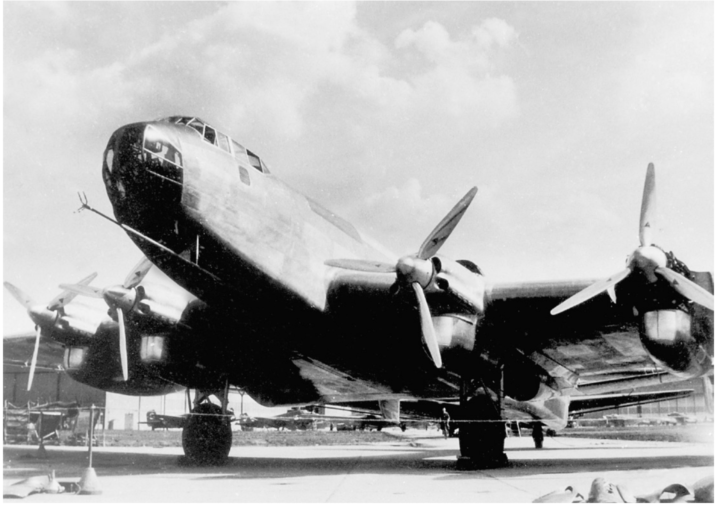
mind in the Luftwaffe, voiced his disappointment with the design of the new bombers even before they had flown. With Wever's approval, he issued revised specifications and demanded totally new designs. However, Wever's untimely death in a flying accident in June 1936 forced a rethink of the entire *'Ural Bomber'* concept.

Soon after, Generaloberst Göring gave an order for all further development work on the *'Ural Bomber'* types to cease, and the project was officially shelved in April 1937. At this, the Do 19 was abandoned and all prototypes scrapped, while the Ju 89 V1 was modified to become the Ju 90 transport. Furthermore, Wimmer's successor as head of the Technical Office was Oberst Ernst Udet, an extrovert World War I fighter ace and holder of the *Pour le Mérite* who was an advocate of small, fast aircraft with little regard for Wever's earlier plans for a long-range bomber. His opposing views were shared by Erhard Milch, who had risen to the position of Secretary of State for Aviation. In such a capacity he believed that manufacture of four-engined bombers would prove too costly in metal and other vital raw materials. Göring summed things up when he remarked, "The *Führer* will never ask me how big our bombers are, but how many we have."

Like Milch, Göring and Udet based their opposition to the notion of a four-engined bomber on the drain it would cause to resources of raw materials. Indeed, Generalluftzeugmeister (Chief of Aircraft Procurement and Supply) Udet once commented to aircraft designer Ernst Heinkel:

> 'In future there won't be any more multi-engined bombers unless they can attack as dive-bombers. By its accuracy, a medium-sized, twin-engined machine, which, in a dive, can hit the target with its bomb load of 900kg, has the same effect as a four-engined giant which carries 2,500–3,500kg of bombs in horizontal flight and can only drop them inaccurately. We do not want these expensive, heavy machines which eat up more in material than a medium, twin-engined dive-bomber costs. Junkers has completed his first twin-engined Stuka, the Ju 88. We can build two or three with the same amount of material that a four-engined machine needs and achieve the same bombing effect. Furthermore, with the cheap super-Stukas, we can build up the numbers the *Führer* wants.'

The decision in favour of the Ju 88 was founded in the mistaken theory that in the Junkers, the Luftwaffe had strategic capability



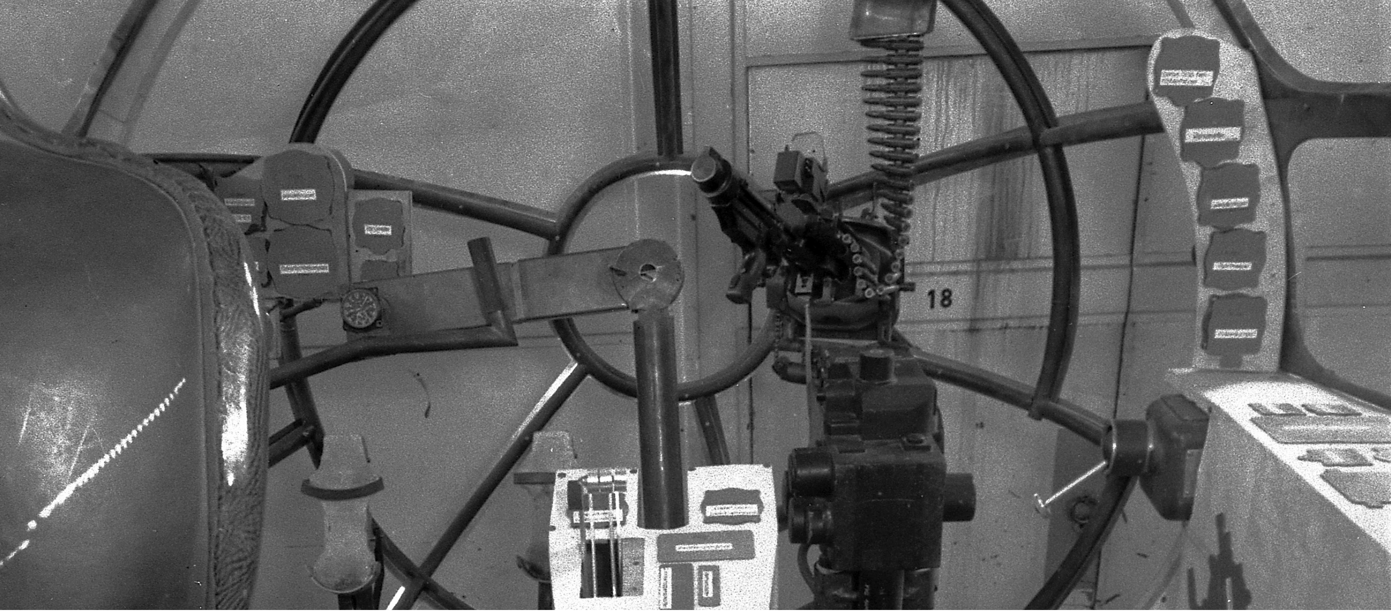
The Junkers Ju 89 was the Do 19's contender as a '*Ural Bomber*', and offering superior performance, but it faired little better than the Dornier. The aeroplane's maiden flight took place in December 1936, but work stopped on Göring's orders four months later.

whatever the scope of the *Führer*'s military ambitions. Therefore, although strategic thinking had not been lost, the Germans continued to think that they had a strategic air force which could – with the Ju 88 – achieve Hitler's war aims of embarking on short campaigns or major wars against Britain or the USSR.

In a surprising paradox, however, later in 1937 Milch quietly authorised specifications to be drawn up for a 'multi-functional aircraft' that could deliver a five-ton bomb load to New York and a lesser tonnage to targets in the central United States, while also being capable of conducting reconnaissance missions as far as the American West Coast. Some months later, however, while chairing a conference of aircraft manufacturers in July 1938, Göring was questioned as to the likelihood of war with the United States – or at least Germany's ability to wage it from the air. The Generalfeldmarschall retorted, 'I completely lack the bombers capable of round-trip flights to New York with a five-ton bomb load. I would be extremely happy to possess such a bomber which would at last stuff the mouth of arrogance across the sea.'

The following month the Fw 200 Condor landed in New York on its record-breaking, non-stop propaganda flight across the Atlantic, and for a while at least Udet forgot his aversion to four-engined, long-range aircraft.

Then, in 1939, as the threat of war hung over Europe, the RLM requested that Junkers, Focke-Wulf and Messerschmitt draw up proposals for a four-engined bomber capable of attacking the United States from airfields inside the Reich – a so-called *Amerika Bomber*. Despite the fact that the RLM had decided that Messerschmitt should design and build only fighters, the firm submitted a proposal based on the P 1061. By 1940, largely as a result of his company's success with the superlative Bf 109 fighter, Professor Messerschmitt's influence was such that he was not only authorised to proceed with the design, but was given an immediate order for three such machines. The 'Banana Plane' was to carry bombs.



A view of a wooden mock-up of the Me 264 cockpit taken from behind the pilot's and co-pilot's seats. The mock-up was constructed to plan the positioning of key instruments and controls, as well as to test the installation of a nose-mounted 13mm MG 131 machine gun with Revi 16B reflector sight.

CHAPTER THREE

PROTOTYPE DESIGN

On 20 July 1940, the day after Hitler had delivered his 'last appeal to reason' speech at the *Reichstag* and as the Luftwaffe bombed a convoy and clashed over the English Channel with RAF Fighter Command, the newly promoted Reichsmarschall Hermann Göring held a press conference in Berlin for a group of American journalists. Questioned as to the possibility of a German threat to the USA, Göring responded, 'The United States cannot be invaded. The Luftwaffe has no aeroplanes of sufficient range for transatlantic operations. Even if you don't like us, give us some credit for common sense and reason.'

However, shortly after this conference, on 10 August, in an echo of Messerschmitt's prophetic vision for a 'Banana Plane', the Naval War Staff wrote to Göring stating that in addition to naval bases, the envisaged 'Greater German Colonial Reich' in central Africa would need long-range aircraft capable of flying at least 6,000km in order to offer air protection to German shipping and to carry priority supplies and fresh produce to the Reich.

Meanwhile, at his firm's *Projektbüro* (*'Probü'* – project office) in the Bavarian town of Augsburg, Professor Messerschmitt had assembled a very experienced design and engineering team to work on the further development of the P 1061. This team comprised *Dipl.-Ing*. Wolfgang Degel, *Dipl.-Ing*. Paul Konrad, *Dipl.-Ing*. Karl Seifert and *Dipl.-Ing*. Woldemar Voigt. The latter, who had previously worked at Klemm and who served as deputy head of the *Probü* from 1933 to 1939, then as its head throughout World War II, is remembered by one senior Messerschmitt executive as being 'an extremely versatile personality of a peculiarly creative scientific and technical mind'. Voigt was responsible for expanding the project department during the 1930s, while Seifert, who had joined it in 1927, was a specialist on large aircraft. Isolde Baur, who worked as an assistant to Seifert, remembered that:

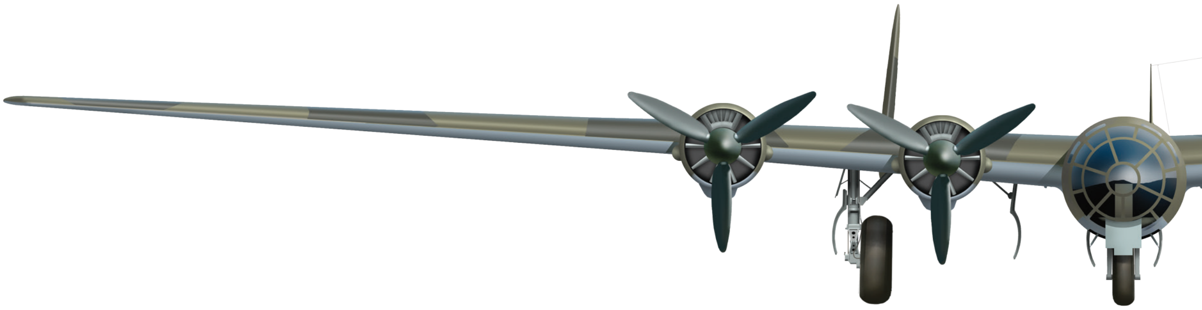
> 'Karl Seifert and Paul Konrad were half-brothers. Paul Konrad was the older of the two. During my entire life I never met any other two brothers who were as different as they were. Karl was a missionary, the humble, quiet, yet forward-looking scientist. Paul, however, was the total realist, always outspoken and a "mechanic" with an eye for detailed design. On several occasions I witnessed Paul chiding his younger brother over his ideas. "You are dreaming again, boy, come back down to earth!" And Karl would answer quietly, "It is possible – you will see." Yet as different as they were, each was brilliant in a technical way. Their characters complemented each other and they worked successfully as a team for many years.'

Wolfgang Degel would go on to head up the development section for the Me 262 jet interceptor. These men would form the core team that would design what would become the Me 264 '*Amerika Bomber*'.

The brief that Messerschmitt gave to his team was to use the Me 261 as a platform on which to build the ultimate long-range aircraft – for either commercial or military use – incorporating a fuselage that was to be as aerodynamically perfect as possible. The aircraft, which had to be able to fly 20,000km, was to be powered by four of the anticipated Daimler-Benz DB 603 liquid-cooled 12-cylinder engines. In its military guise, it would carry between two and five tons of bombs internally in its mid-fuselage section, while smaller ordnance could be carried under the wings. Armament was to consist of machine gun- and cannon-equipped turrets that could retract to lie flush with the fuselage when not required – something Messerschmitt had intended for the Bf 165. Degel, Konrad, Seifert and Voigt duly went to work.

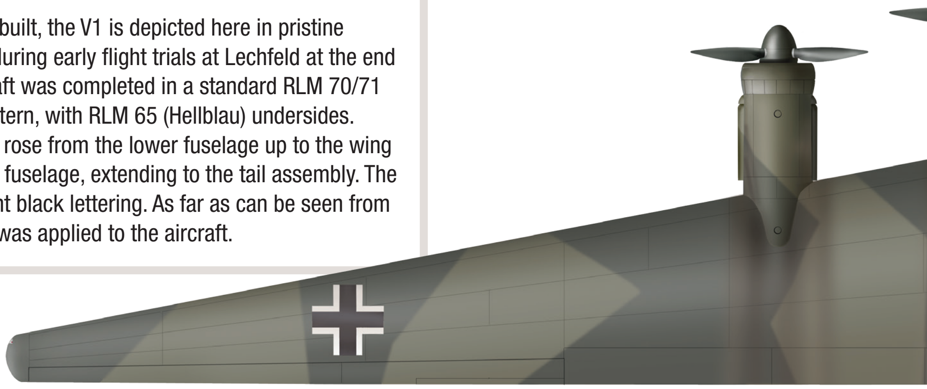
In late January 1941 Messerschmitt heard of the Luftwaffe General Staff's intention to conduct a performance analysis between three aircraft types then available – the Fw 200, the Heinkel He 177 bomber (only available in prototype form) and the Blohm und Voss BV 222 flying boat – for operations in support of the *Kriegsmarine*'s U-boats in the Atlantic. Messerschmitt urged his team to hasten their work and took it upon himself to prepare a table of performance and weight data for a proposed 'Messerschmitt Me 264'. He also assured Udet that a prototype aircraft would be ready for flight-testing by May 1942. This was something that, evidently, the Generalluftzeugmeister favoured, for, surprisingly, he considered the Messerschmitt design to be the most suitable for 'long-range Atlantic operations'. It is fair to say that Udet's opinion was somewhat premature in view of the fact that only a minimal quantity of material had been allocated to the project by that stage.

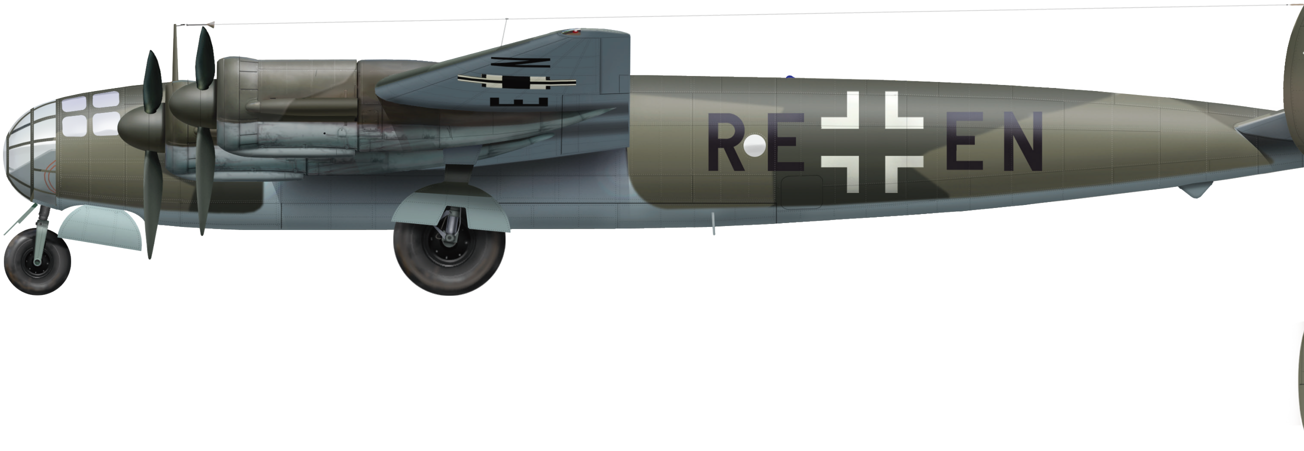
Nevertheless, on 5 March 1941, an order for no fewer than 30 'four-engined aircraft' was placed by the RLM with Messerschmitt. The

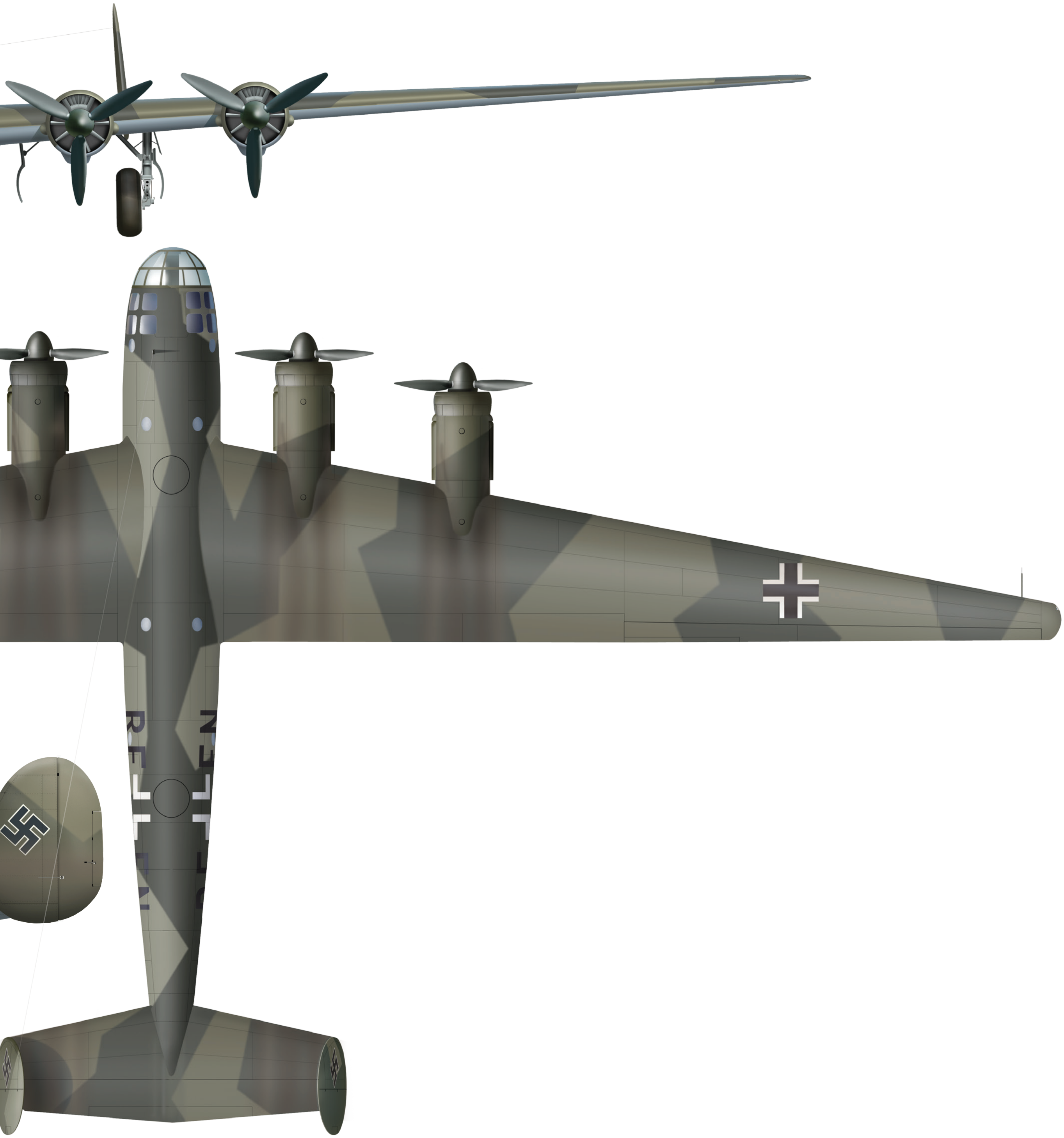


Me 264 V1 Wk-Nr. 26400001 RE+EN, Lechfeld, December 1942

The only example of the Me 264 to be built, the V1 is depicted here in pristine condition as it would have been seen during early flight trials at Lechfeld at the end of 1942 and into early 1943. The aircraft was completed in a standard RLM 70/71 (Schwarzgrün/Dunkelgrün) splinter pattern, with RLM 65 (Hellblau) undersides. From the cockpit, the demarcation line rose from the lower fuselage up to the wing roots and then back down to the lower fuselage, extending to the tail assembly. The fuselage code was applied in prominent black lettering. As far as can be seen from known photographs, no Werknummer was applied to the aircraft.



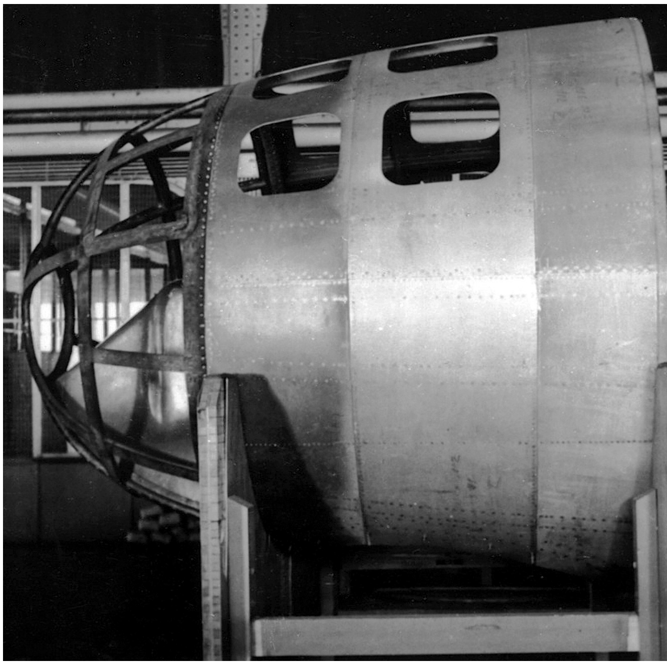


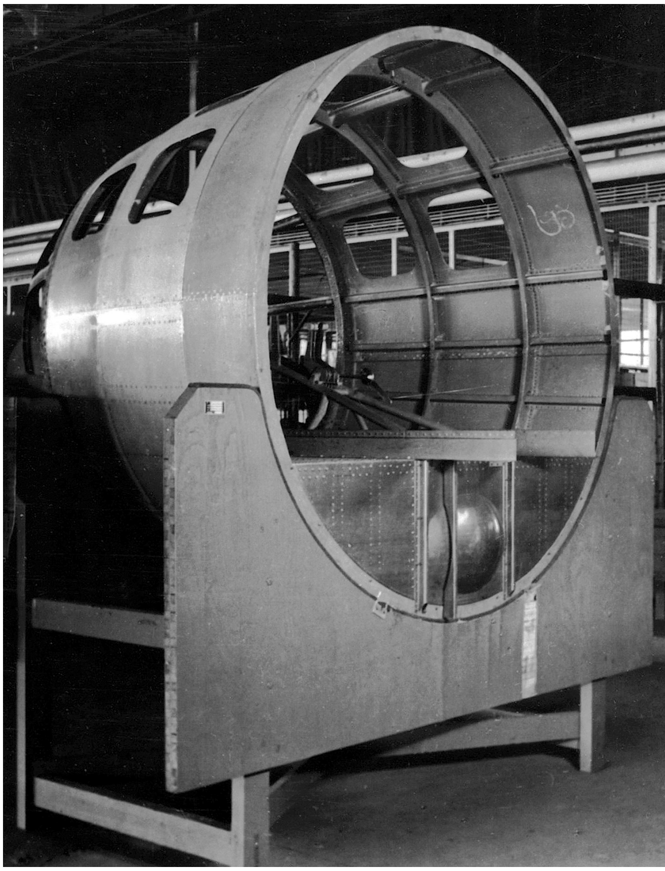


aircraft, to be known officially as Me 264s, were required to carry two tons of bombs in order to conduct 'harassment' missions against the United States, and the RLM instructed that Messerschmitt should be given sufficient material to proceed with the immediate construction of the first six machines. With some well-founded prescience, however, other senior figures within the RLM erred on the side of caution and scrutinised Messerschmitt's range projections. They calculated that in order to fly a five-ton payload for 12,000km, six DB 603 engines would be required, but even so fitted, the aircraft would fail to achieve a non-stop flight from western France to the US East Coast. The requirement was subsequently discussed with other manufacturers, including Arado, which was working on a long-range project known as the Ar E 470.

Developed from the E 340 twin-engined bomber project of 1940, the E 470 was designed as a large transatlantic bomber with a gondola-type central fuselage and tapering twin tail booms connected by a horizontal tail unit and elevator. Arado proposed five variants, all heavily armed and powered by four or six 4,000hp DB 613 coupled 24-cylinder engines. The aircraft would have had a wingspan of between 47.3m and 68.5m. A sixth variant, the 'F', was planned as a transport with a range of 15,000km and freight capacity of 39 tons in a container mounted below the wing centre section. With a maximum speed of 530km/h, an operational ceiling of 11,000m and a range of 14,900km, variant 'E' would have been powered by four or six DB 613s in pairs with exhaust gas turbochargers, and would have carried a 5,000kg bomb load of the heaviest-calibre ordnance. A four-man crew was to have been accommodated in a pressurised cabin with remote-controlled defensive armament. On paper, such a machine would have been able to conduct bombing raids over the US East Coast, returning to a landing ground in France without refuelling, but the RLM scrapped the project without giving a reason, although ensuing problems with the DB 613 engines may have put an end to further consideration in any case.

Determined not to be pushed into the shade, Professor Messerschmitt went a step further and produced an uprated design for the Me 264 that featured six engines. Known in the *Probü* as the





Two views of the cockpit section of the Me 264 V1 while under construction and seen in a plywood assembly cradle.

P 1075, Messerschmitt wanted an aircraft that would undertake reconnaissance flights from Germany to the continents of Africa, Asia and North America. But it was at this point that the old feud between Milch and Messerschmitt reared its head, with the Secretary of State voicing his opposition to Messerschmitt being involved in such work. As it was, the company did not have sufficient capacity at Augsburg to complete the construction of the six-engined aircraft, and it was forced to sub-contract design work related to the wings and tail section to Fokker in the Netherlands.

Milch was both ambitious and ruthless, and his animosity towards Messerschmitt would cast a long shadow over the whole Me 264 development programme. The fact that Milch's mother was Jewish did not stop his meteoric rise to the very top of German aviation and ultimately, along with Albert Speer, control of transportation throughout the Third Reich. Milch believed that the task of building a long-range bomber should be 'returned' to Dornier or Junkers – the latter especially so since he had overseen the aggressive nationalisation of the company, and could thus exert control over it.

Aware of this, Messerschmitt pressed his design team with almost feverish demands, with work centring on enhancing the airframe of the Me 264 so as to increase performance. To this end, throughout the latter half of 1941 and into the spring of 1942 a range of options was considered, including the fitting of rocket-assisted takeoff units manufactured by the Walter company, as well as in-flight refuelling from another Me 264 'tanker' aircraft. The latter plan was borne out of the RLM's idea that for missions directed at the USA, airborne refuelling could be conducted at a point 3,000km out into the Atlantic. In addition, the Messerschmitt engineers looked at the possibility of towed starts, with one Me 264 hauling another to a sufficient altitude in order to conserve fuel at takeoff.

Augsburg also proposed an increase in bomb loads, and new weapons in the form of *Fernbedienbare Drehlafette* FDL 131Z remote-controlled turrets with either 13mm MG 131 machine gun or 20mm MG 151 cannon-equipped *Zwilling* (twin or coupled two-gun) configurations. The real problem, however, was the continuing unavailability of the improved DB 603 or the 2,100hp, 12-cylinder Jumo 213 engines that would have provided the aircraft with the power it sorely needed.

The other key problem was that although Milch opposed Messerschmitt working in such areas, there were, in reality, few practical alternatives when it came to long-range, strategic bombers for the Luftwaffe. Udet championed the eagerly anticipated He 177, which featured two engines on each wing coupled together as one, driving a single airscrew. This gave the Heinkel the appearance of a twin-engined machine, and produced a low-drag aerodynamic configuration, but the bomber suffered from enduring problems with its DB 606 powerplant. During an RLM production meeting held on 21 May 1941, an officer from the Luftwaffe's high-altitude testing centre reported that in its twin-tandem DB 606 configuration, the He 177, was troublesome, unreliable and unsuitable for operations. Four independently mounted DB 603 or BMW 801 engines were deemed preferable, but this would entail increasing the wing area, and thus weight. Furthermore, the anticipated range of 4,500–5,000km already ruled out sorties any further than the mid-Atlantic. The He 177 may have been a bomber, but it was not shaping up to be a long-range strike aircraft.

In August, as with the Me 264, plans were put forward to equip the He 177 – an aircraft now considered to be 'of the greatest importance' – for in-flight refuelling. It was calculated that if an He 177 refuelled in the air it would extend its range to 9,500km. This would be enough to patrol the Atlantic for American bombers being ferried to Britain, but still not enough to actually reach and attack the East Coast of the USA.

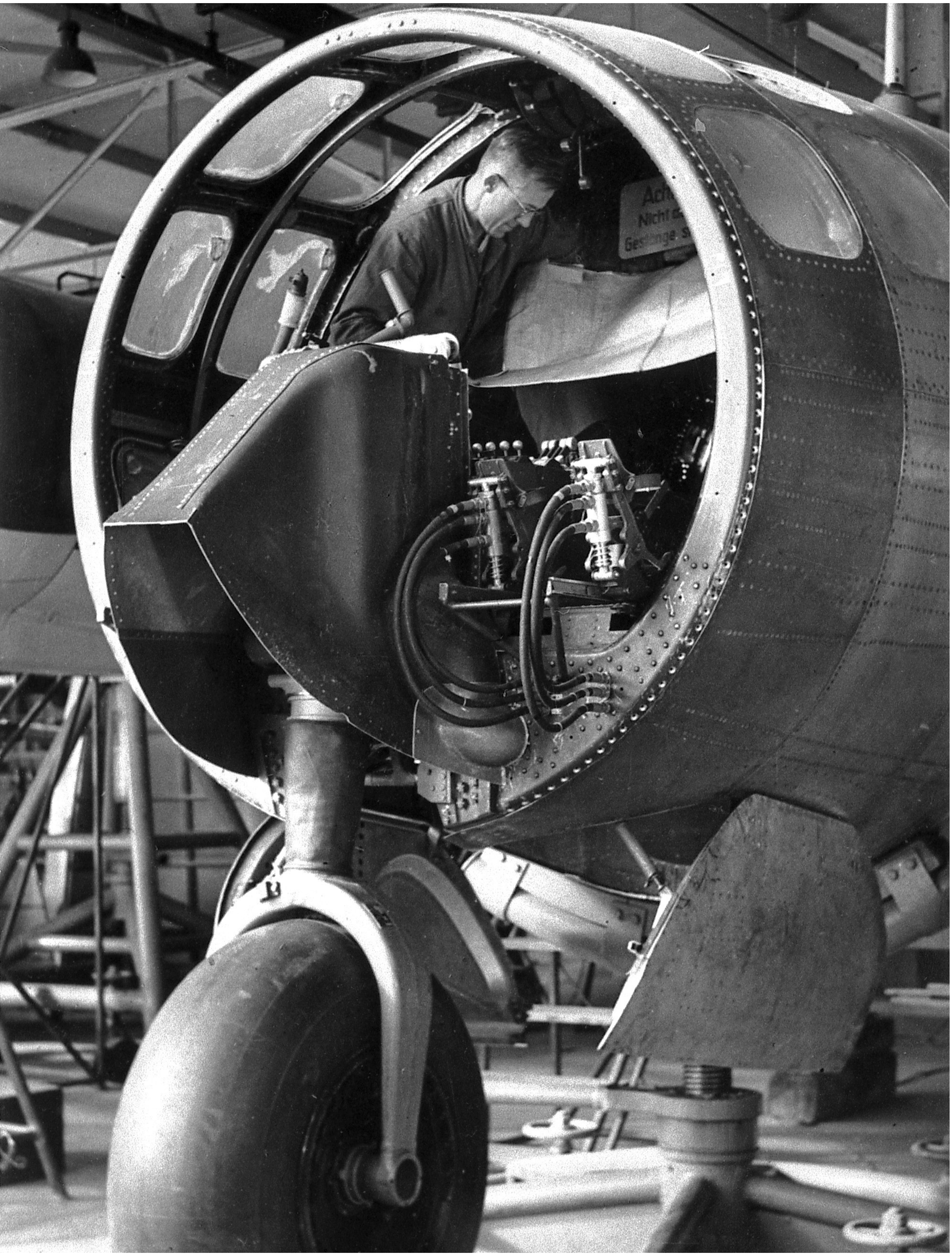
Neither had the much-vaunted Ju 88 offered the Luftwaffe a universal solution to its requirements – the Junkers medium bomber was fast, but it (along with the twin-engined Do 17 and He 111) had failed to crack Britain in 1940. Despite this, heady victories in the Balkans and the Soviet Union in 1941 cemented German air doctrine to achieving immediate tactical requirements rather than embarking on strategic goals – a doctrine favoured by Udet. The truth was that from the outbreak of war, the Luftwaffe had suffered from not having sufficient plans in place for operations beyond tactical support of the Army.

Thus, reluctantly, from the summer of 1941, Milch agreed to Messerschmitt continuing work on the Me 264 at Augsburg. In August, Willy Messerschmitt caught both the Secretary of State and the Generalluftzeugmeister by surprise when he announced that the first prototype aircraft would be completed and available for flight-testing by early summer 1942. However, even at this early stage, Messerschmitt's enthusiasm – and ambition – were running away with him. The most recent data tables given to Udet showed that the Me 264 would be capable of reaching targets only on the eastern coastline of the USA, and not as far as the hinterland cities. This meant that Messerschmitt had failed to attain his own targets of improved aerodynamic performance and range.

In the last two months of 1941 two significant events occurred that would have an impact on the Messerschmitt bomber. On 17 November, Udet, increasingly anguished and depressed, shot himself, not only because he was no longer able to withstand the stress and pressures of his position, but also as a result of a worsening feud with Göring and the perceived failure of the Luftwaffe on the Eastern Front. The ambitious Milch took over the post of Generalluftzeugmeister.

On 7 December hundreds of Japanese carrier-based aircraft attacked US Navy warships at Pearl Harbor, in Hawaii, and the United States entered the war. 'The turning point!' Hitler had declared to members of his inner circle. However, the *Führer* continued – naively – to pour scorn on the Americans, on one occasion commenting to an aide 'one Beethoven symphony contains more culture than America has produced in her whole history!' But he had seriously miscalculated the geo-political position and resources of the United States.

A fitter refers to a parts plan while working inside the rear cockpit compartment of the Me 264 V1 at Augsburg. Prominent is the large nosewheel hydraulics fairing, next to which are the pilot's foot pedals and their control lines. Also visible is the control column and the hand sticks in the central control fairing. The nosewheel door is lowered and the fuselage rests on an adjustable trestle.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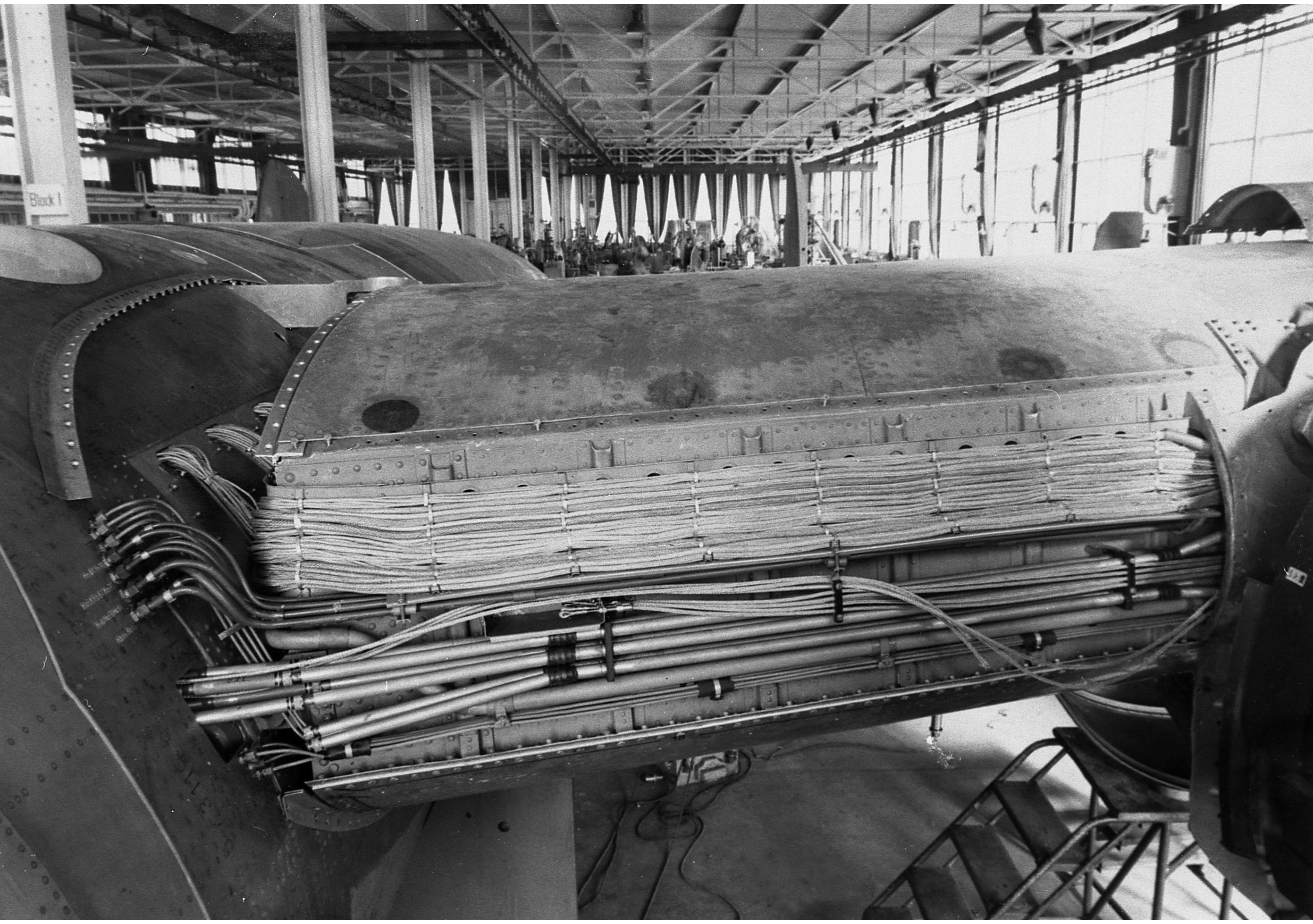
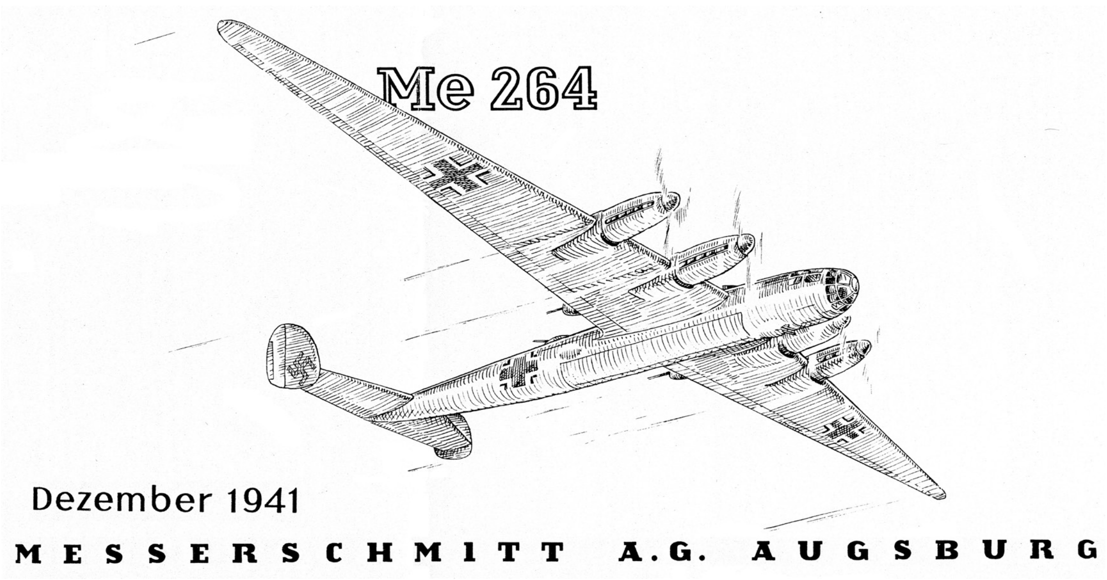


The join of the left wing to the fuselage showing the leading edge, looking aft. The mass of cabling and wires would have placed considerable load on the aircraft structure. It contains the control system for the flaps and ailerons, as well as the fuel feed system. Just visible in the background are the vertical stabilisers.

By 1941 it was comfortably able to supply not only its own markets with both industrial goods and agricultural produce, but also to aid other nations, thus cementing its important alliances in the process. Furthermore, the Atlantic and the Pacific Oceans protected America against any form of expansionist threat from Imperial Japan or Nazi Germany. The United States was thus in a position to intervene in the far-distant theatres of war in Asia or Europe as it wished, as well as rest in the knowledge it was not easily attackable. Despite this, four days after Pearl Harbor, on 11 December 1941, Germany declared war on the United States, although when it came to Europe the United States was still neutral.

That same month, in order to overcome the doubts and scepticism about the likelihood of the Me 264 reaching flight-test status by the summer of 1942, Messerschmitt A.G. produced a visually impressive and detailed specification brochure on the aircraft. This contained artists' impressions, together with data and performance tables on the planned 'heavy bomber' and 'long-range reconnaissance' variants, including parts lists, weight distribution data, curves on engine



Me 264

Dezember 1941

MESSERSCHMITT A.G. AUGSBURG

The cover of the December 1941 booklet published by Messerschmitt to promote the Me 264 depicted the aircraft in flight, powered by in-line engines and equipped with remote-controlled, rearward-firing guns fitted to the trailing edges of the wings.

performance, speeds and takeoff performance, range data and rates of climb and ceiling.

The cover of the bound landscape booklet featured a stylised sketch of the Me 264 in flight, and it is clear from this that Messerschmitt always saw the aircraft being equipped with an array of remote-controlled armament and gun positions. These would be located in the forward and central upper fuselage, below the cockpit and on the trailing edge of the wing immediately behind the in-board engines. The weapons would allow the aircraft to defend itself from attack from four different directions. Remotely-controlled rearward firing 20mm MG 151 cannon were to be mounted on the trailing edge of the wing immediately behind the inboard engines. There was at least one upper fuselage turret equipped with an MG 131 *Zwilling*, and possibly another just aft of the cockpit, above the navigator's position. Finally, a combination of four MG 131s and two MG 151s would offer defence from an attack mounted directly from the rear.

The engines depicted appeared to be based loosely on the Daimler-Benz DB 603. The brochure also included a cutaway sketch of the aircraft that featured 'all-round' visibility cockpit glazing and a spacious navigator's compartment behind the cockpit, below which was an under-fuselage remote-controlled 13mm MG 131 *Zwilling* turret. Aft of the bomb-bay was a crew rest area, with an entrance to a toilet.

The brochure offered the first overt glimpse of the Me 264, promoting six basic variants with differing engine options:

a) Me 264H-3 *Langstreckenbomber* (long-range bomber) – a long-range bomber fitted with four DB 603 H engines, with a takeoff weight of 50 tons, a bomb load of up to 8,400kg and a range of 15,600km without payload and 11,300km with bomb load.

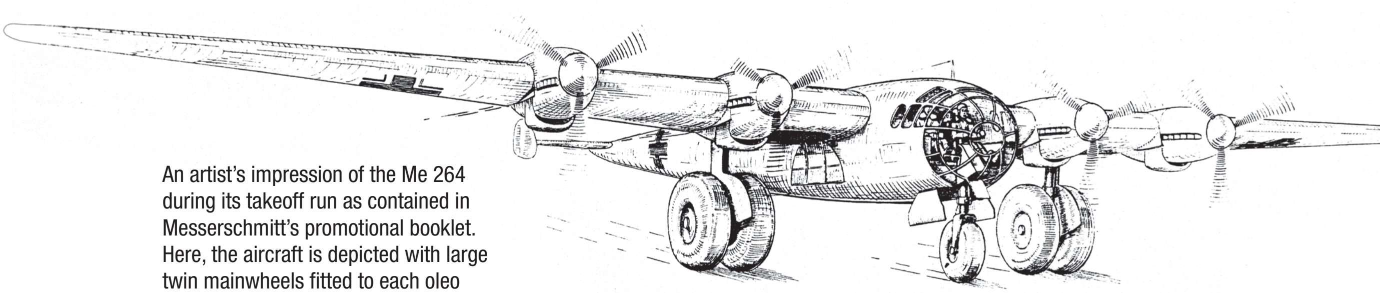
A mechanic and foreman stand under the outer starboard Jumo 211 engine as they refer to a parts plan in the assembly hall at Augsburg. The large windows have blackout curtains in case of an air raid.

b) Me 264H-3 *Langstreckenbomber* (long-range bomber) – a long-range bomber fitted with four Jumo 213 engines, with a takeoff weight of 50 tons, a bomb load of up to 8,400kg and a range of 15,600km without payload and 11,600km with bomb load.
c) Me 264H-3 *Schwerer Bomber* (heavy bomber) – a heavy bomber fitted with four DB 603 H engines, with a takeoff weight of 50 tons, a main bomb load and an auxiliary bomb load carried beneath the wings equating to a total payload of 14,000kg and a range of 11,500km without payload and 7,900km with bomb load.
d) Me 264H-3 *Schwerer Bomber* (heavy bomber) – a heavy bomber fitted with four Jumo 213 engines, with a takeoff weight of 50 tons, a main bomb load and an auxiliary bomb load carried beneath the wings equating to a total payload of 14,000kg and a range of 11,900km without payload and 8,400km with bomb load.
e) Me 264H-2/H-3 *Fernaufklärer* (long-range reconnaissance) – a reconnaissance machine, patrol aircraft or courier aircraft fitted with four Jumo 213 (H-2) or DB 603 engines (H-3), a 57-ton takeoff weight, a projected range of 20,800km and a flight duration of approximately 60 hours.
f) A long-range transport aircraft.

SPECIFICATIONS

Me 264 *LANGSTRECKENBOMBER* H-3			
Engine	Daimler-Benz DB 603 (fuelled with C3 100 Octane)		
AIRFRAME			
Span	43.1m		
Length	20.55m		
Height	4.28m		
Wing area	125m^2		
ARMAMENT			
B-Stand (Dorsal)	2× MG 131 (1,000 rounds each)		
C-Stand (Ventral)	2× MG 151 (1,000 rounds each)		
D-Stand (×2) (Side)	1× MG 151 (2× 1,000–1,500 rounds each)		
WEIGHTS		**RANGE WITH BOMB LOAD IN FUSELAGE**	
Structural weight	18,089kg	6× PC 1400 (8,400kg) (Armour Piercing)	11,300km
Crew – six men	540kg	2× SC 2500 (5,000kg) (High Explosive)	13,200km
Crew supplies	100kg	4× SC 1000 (4,000kg)	13,800km
External racks and tanks	200kg	4× LMB III (4,000kg) (Air Mine)	13,800km
Armour for two pilots	100kg	2× SC 1800 (3,600kg)	14,000km
Bomb gear	250kg	6× SC 500 (3,000kg)	14,400km
Weapons	1,000kg	11× SC 250 (2,750kg)	14,500km
Bombs	8,400kg	(To carry 1,000kg additional armour or weapons, a decrease in bomb load by approximately 1,800kg would maintain ranges as above)	
Fuel for armoured flight	14,300kg	Takeoff distance without auxiliary thrust	2,050m
Fuel for unarmoured flight	5,421kg	With 4× 1,000kg thrust units	1,320m
Fuel – auxiliary tanks	–	Takeoff performance rating	5m per second
Oil	1,000kg	Climb rating	3.5m per second
Weight on ground	20,079kg	Normal cruise rating	2m per second
Takeoff weight	50,000kg		
BOMB-BAY AND EXTERNAL ORDNANCE CONFIGURATIONS WERE PLANNED WITH THE FOLLOWING OPTIONS			
Type	**Fuselage Bay**	**External Wing Racks**	**Total Weight**
High Explosive	11× SC 250	8× SC 250	4,750kg
	6× SC 500 + 3× SC 250	4× SC 500	5,750kg
	4× SC 1000	4× SC 1000	8,000kg
	2× SC 1800 + 3× SC 250	4× SC 1800	11,550kg
	2× SC 2500 + 3× SC 250	Nil	5,750kg
Air Mines	4× BM 1000	4× BM 1000	8,000kg
Armour-Piercing	6× PC 1000 + 3× SC 250	4× PC 1000	10,750kg
	6× PC 1400	4× PC 1400	14,000kg
Mines	2× LMF + 3× SC 250	4× LMF	6,750kg
	4× LMB III	4× LMB III	8,000kg
Torpedoes	Nil	4× LT 1500	6,000kg
Radio/signal beacons	Nil	4× Gobi	4,400kg

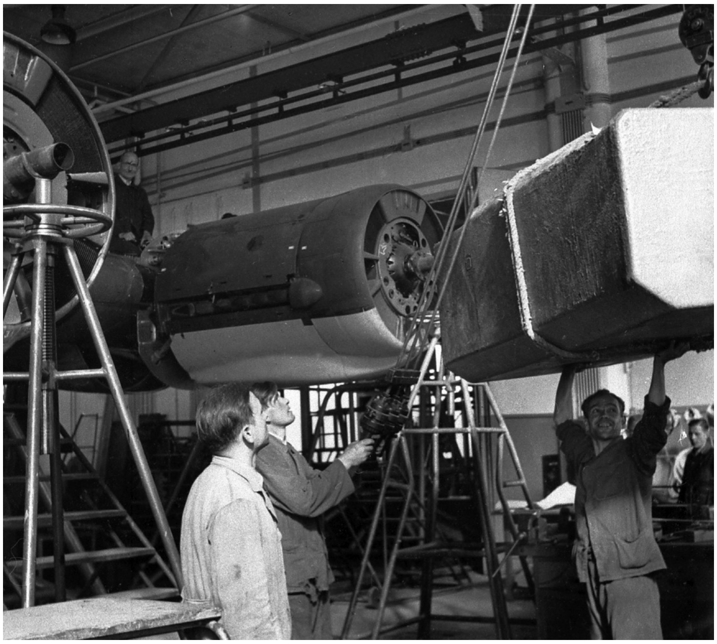
Me 264 *SCHWERER* BOMBER H-3			
Engine	Daimler-Benz DB 603 (fuelled with C3 100)		
Propeller Diameter	3.9m		
AIRFRAME		**ARMAMENT**	
Span	43.1m	B-Stand (Dorsal)	2× MG 131 (1,000 rounds each)
Length	20.55m	C-Stand (Ventral)	2× MG 151 (1,000 rounds each)
Height	4.28m	D-Stand (×2) (Side)	1× MG 151 (2× 1,000–1,500 rounds each)
Wing area	125m²		
WEIGHTS		**RANGE WITH BOMB LOAD IN FUSELAGE**	
Structural weight	18,089kg	10× PC 1400 (14,000kg) (Armour P.)	8,150km
Crew – six men	540kg	2× SC 2500 + 4× SC 1800 (13,200kg) (High Exp.)	8,600km
Crew supplies	100kg	4× SC 1800 (10,800kg)	9,900km
Bomb gear	500kg	8× SC 1000 (8,000kg)	11,500km
Weapons	1,000kg	8× LMB III (8,000kg)	11,500km
Ammunition	1,000kg	2× SC 2500 + 4 X LT 1500	11,500km
Bombs	14,000kg	(To carry 1,000kg additional armour or weapons, a decrease in bomb load by approximately 1,800kg would maintain ranges as above)	
Fuel for armoured flight	14,071kg		
Fuel for unarmoured flight	0kg	Takeoff distance without auxiliary thrust	2,050m
Oil	800kg	With 4× 1,000kg thrust units	1,320m
Weight on ground	20,329kg	Takeoff performance rating	5m per second
Takeoff weight	50,000kg	Climb rating	3.5m per second
		Normal cruise rating	2m per second
Take-off distance without auxiliary thrust	2,050m	Service ceiling after half range at optimum cruising speed	610km/h
With 4 x 1000kg thrust units	1,320m	Service ceiling at normal rating	9,500m
Takeoff performance rating	5m per second	Flight duration with 8,400kg bomb load	30.8hrs
Landing speed	136km/h		
WING LOADING			
Landing	160kg/m²	Takeoff	400kg/m²



An artist's impression of the Me 264 during its takeoff run as contained in Messerschmitt's promotional booklet. Here, the aircraft is depicted with large twin mainwheels fitted to each oleo strut, the outer ones being jettisonable once the aircraft was airborne.

Me 264 *FERNAUFKLÄRER* H-2			
Engine	Jumo 213 A/2 (fuelled with C3)		
Propeller Diameter	3.9m		
AIRFRAME		**WEIGHTS**	
Span	43.1m	Structural weight	18,089kg
Length	20.55m	Crew – six men	540kg
Height	4.28m	Crew supplies	100kg
Wing area	125m^2	Camera equipment	140kg
		External containers	300kg
Weapons	Unarmed	Fuel for armoured flight	14,300kg
Oil	2,380kg	Fuel for unarmoured flight	6,200kg
Weight on ground	18,869kg	Fuel in fuselage	5,000kg
Takeoff weight	57,000kg	Fuel – auxiliary tanks	9,951kg
Range	20,800km		
Maximum speed at 6,000m on operational performance:	610km/h	Takeoff distance without auxiliary thrust	2,700m
Flight duration	60hrs	With 4× 1,000kg thrust units	1,900m
		Takeoff performance rating	5m per second
Climb rating	3.7m per second	Normal cruise rating	2.3m per second
Service ceiling after half range at optimum cruising speed	8,500m	Average cruising speed	350km/h
WING LOADING			
Landing	150kg/m^2	Takeoff	455kg/m^2

Me 264 *FERNAUFKLÄRER* H-3			
Engine	Daimler-Benz DB 603 (fuelled with C3)	Propeller Diameter	3.9m
AIRFRAME		**WEIGHTS**	
Span	43.1m	Structural weight	18,089kg
Length	20.55m	Crew – six men	540kg
Height	4.28m	Crew supplies	100kg
Wing area	125m^2	Camera equipment	140kg
		External containers	100kg
Weapons	Unarmed	Fuel for armoured flight	14,300kg
Oil	1,980kg	Fuel for unarmoured flight	6,200kg
Weight on ground	18,869kg	Fuel in fuselage	5,000kg
Takeoff weight	57,000kg	Fuel – auxiliary tanks	3,551kg
Range	17,560km		
Maximum speed at 6,000m on operational performance:	610km/h	Takeoff distance without auxiliary thrust	2,050m
Flight duration	50 hrs	With 4× 1,000kg thrust units	1,320m
		Takeoff performance rating	5m per second
Climb rating	3.5m per second	Normal cruise rating	2.0m per second
Service ceiling after half range at optimum cruising speed	8,500m	Average cruising speed	350km/h
WING LOADING			
Landing	150kg/m^2	Takeoff	400kg/m^2

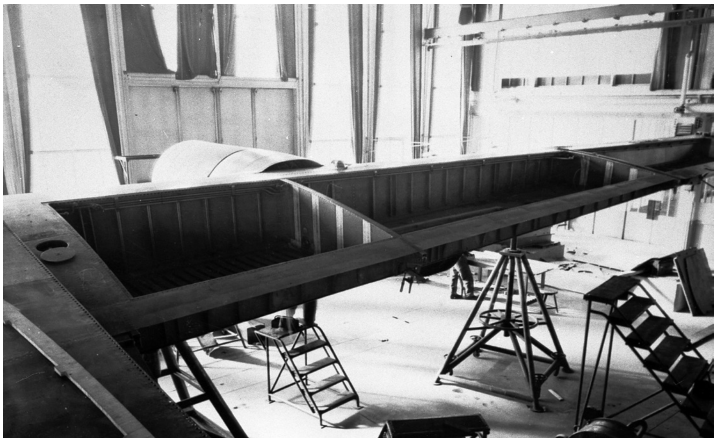


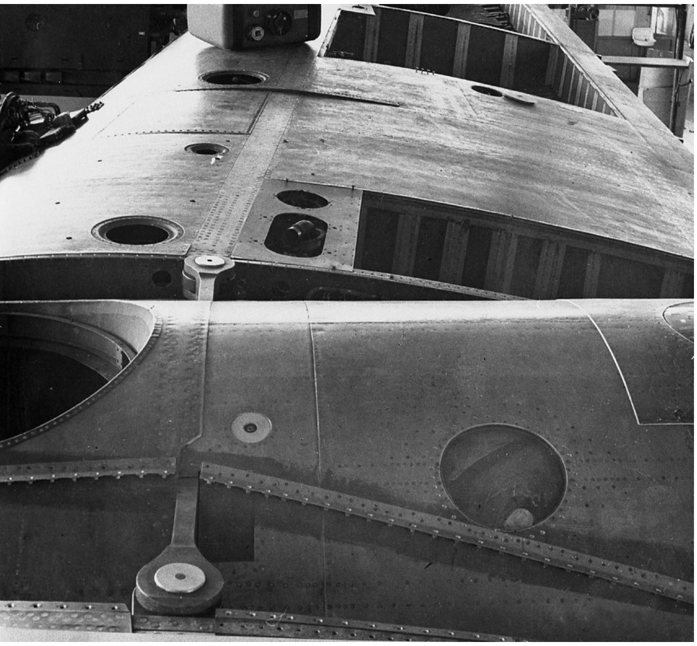
Augsburg assembly workers watch as a wing fuel tank is carefully hoisted towards the port wing using a mechanical winch. The tank will be lowered into its bay between the two Jumo 211 engines.

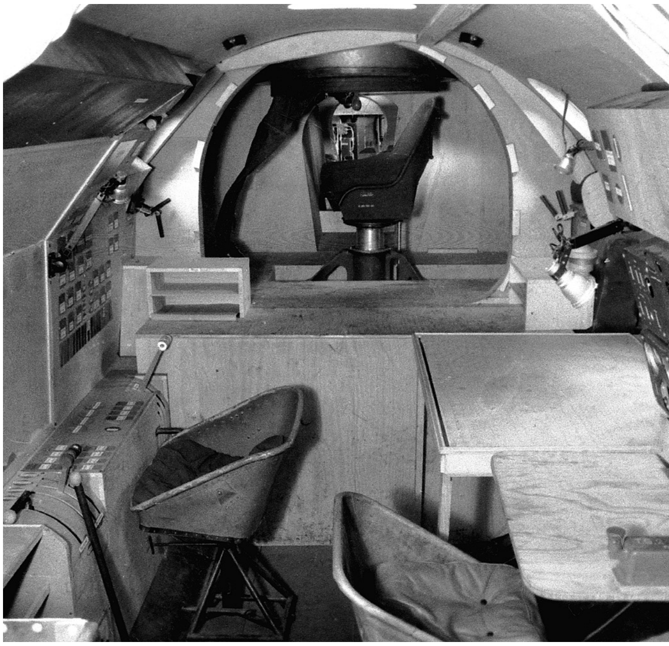
The all-metal, semi-high-wing aircraft would feature a monococque fuselage divided into four equal internal parts with a circular cross-section. The section from the rear of the cockpit to the tail assembly was built as one unit, with the area around the bomb-bay and a part of the navigator's area being cylindrical. Adaptable construction techniques included removable and interchangeable cockpit units, and the landing gear and nosewheel were fully retractable. The tail assembly was copied from that used on the Me 261. The aircraft could be fitted with a pressurised cabin, armour and navigation equipment as required, armoured main fuel tanks, auxiliary fuel tanks, and provision to carry external ordnance such as aerial torpedoes and bombs. It could also be built for commercial deployment, with the inclusion of additional navigation equipment, auxiliary fuel tanks and extra accommodation as required.

The Me 264 had a wingspan of 43.1m, an overall fuselage length of 20.55m, a height of 4.28m and a total wing area of 125sq m. The wings, which were similar in profile to those of the Me 261, were trapezoid in shape, and strength came from one main spar and two support spars built into the fuselage. Each wing would hold nine fuel tanks, of which six were armoured. Fuel was pumped internally by a pressure pump. Fuel from the non-armoured

The right wing of the Me 264 before its upper panelling and control surfaces have been fitted, showing the bays for the three outer fuel tanks. Only one Jumo 211 engine nacelle has been installed.







ABOVE A view looking along the 20m-long right wing from the top of the fuselage. A fitter works crouching in one of the wing fuel tank bays, and an oil tank lies close to the leading edge awaiting installation. Visible to the left is the opening for the (intended) dorsal MG 131 Zwilling gun turret and the wing attachment brackets on either side of the fuselage.

RIGHT This photograph of the partially completed fuselage was taken from the cockpit. To the right is the navigator and radio operator's station, with a fold-down table and a larger, fixed map table to the left-hand side. Two wall-mounted lamps provide illumination, but natural light would also have come from the observation windows directly above and in the fuselage side just before the access point to the central fuselage. On the other side of the fuselage is a control panel used by the flight engineer. The arch behind leads through the fuselage, above the bomb-bay and past a seat for the upper gunner. Space for aircrew in bulky flying suits and oxygen equipment would have been restricted.

tanks was used first by pressure pumping from a CO_2 tank in the rear fuselage. Each engine would be fitted with a fire extinguisher. The aircraft should have been able to carry sufficient fuel in its armoured tanks to allow it to fly for 60 to 100 per cent of its range after takeoff with a bomb load, although range could be increased with the inclusion of external and/or emergency tanks.

The standard engines were envisaged as the DB 603 and/or Jumo 213, but another option was the 14-cylinder, 2,000hp high-altitude BMW 801 radial and 24-cylinder, 2,500hp Jumo 222, as well as high-altitude types such as the DB 614 or Jumo 223, with which the maximum attainable ceiling would be 4,000–4,300m. Extendable coolers were to be built in at an angle to the engines and protected by their position between the engines and the armoured wing fuel tanks. In such a location the coolers would be shielded to some extent from enemy fire. It was planned that each engine would have a lubricating oil tank that would draw oil from the main tank in the heated fuselage.

The undercarriage featured four 1,550×575mm mainwheels in pairs, of which one wheel from each pair was jettisonable after takeoff. The wheels turned on their axis as they retracted electro-hydraulically. A 935×345mm nosewheel, held by forked suspension struts, retracted turning rearwards into a bay beneath the cockpit.

Entrance to the aircraft for the crew was via an angled access hatch beneath the crew accommodation area. The roomy, comfortable cockpit offered good vision above, below and to 60 degrees either side for both pilot and co-pilot, and contained all flying instruments, controls and steering systems, together with the emergency bomb release system. Control of the aircraft could be taken from either the pilot's or co-pilot's positions, and their armoured seats were adjustable, forward and back, and by height. Adjacent to the cockpit was the navigator's position, with a navigation console and table with equipment for astro-navigation, as well as the radio. An emergency exit was installed above the navigator's position for use in the event of a belly landing. From this point, a gangway led to the crew's heated rest area aft of the bomb-bay, where there was also camera equipment and a toilet. Sleeping accommodation was provided by four bunks.

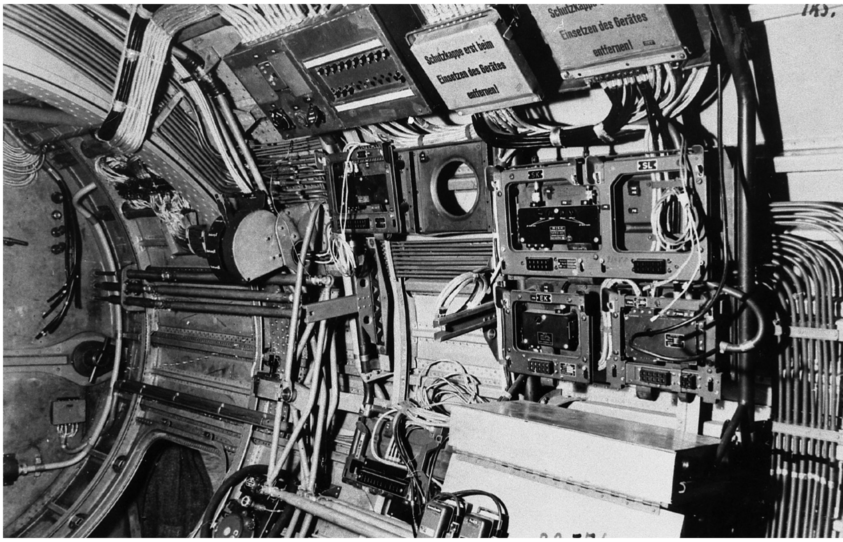
To enable repair and maintenance, there were large open access hatches built into the walls forward and aft of the bomb-bay and throughout the aircraft.

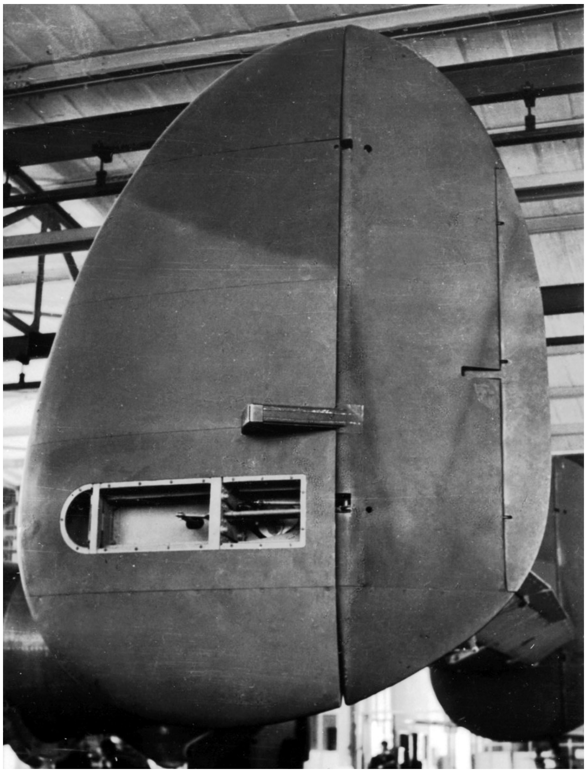
By the beginning of February 1942, as Milch had predicted, work on the Me 264 prototypes had slowed, mainly due to a lack of production capacity at the Augsburg works. The best estimate for delivery of series production Me 264s was still years away –1946 or even 1947. Pressure was being piled on the Messerschmitt concern as a result of demand for Bf 109 fighters and the increasing costs associated with the development of the troublesome twin-engined Me 210 heavy fighter.

In another paradoxical turn of events, at the turn of the year Milch had declared openly that he no longer saw development of the Me 264 as a priority, for as Germany's war effort became ever more demanding in the East and in North Africa, and with the increasing prospect of war taking place over the occupied territories in the West and the Reich itself, the greatest need was for fighters, tactical bombers and transports. With his dislike of Messerschmitt still high, Milch ordered the number of Me 264 prototypes to be cut and the earlier approved total of 24 series aircraft to be stopped. Again, the RLM effectively abandoned the Me 264 as a serious proposal to look for an aircraft that could become available. Indeed, it is possible that in terminating the agreement with Messerschmitt, Milch was hoping to transfer any development work that remained on a long-range bomber to either Kurt Tank of Focke-Wulf, who had submitted his six-engined Ta 400 proposal, or to Ernst Heinkel for an uprated version of the He 177.

A decision was then made to transfer construction of the Me 264 to Dornier, but bottlenecks in that company's production necessitated a further move to the Weser Flugzeugbau. However to take on the Me 264, this smaller company required a new production line to be established in southern Germany, and the idea came to nothing. Production subsequently fell even further behind schedule. Thus, it is curious that at that point the RLM issued an official

A view of the extensive wiring and control rods as fitted to the internal fuselage wall. The wording on the metal junction boxes reads *'Schutzkappe erst beim Einsetzen des Gerätes entfernen!'* ('Close lid first before activating equipment!'). Note the access hatch at the bottom left of the photograph.


Schutzkappe erst beim Einsetzen des Gerätes entfernen!
Einsetzen des Gerätes entfernen!



The port side vertical tail fin and rudder with its prominent outer hinge. The removed panel shows the connections from the horizontal stabiliser.

Flugzeugtypenblatt (Aircraft Type Sheet) for the Me 264. This drawing showed the aircraft fitted with remotely-operated, rearward-firing MG 151s installed on the wing trailing edge directly behind the in-board engine nacelles, while two twin MG 131 *Zwilling* gun sets were built into turrets on top of the forward and rear fuselage. Ordinarily, a *Flugzeugtypenblatt* would not have been issued if interest was waning – let alone if Milch had ordered prototype development cut and production to cease.

Notwithstanding this, Messerschmitt sent revised performance data to the RLM, projecting a range of 13,000km based on the DB 603 engine. The bomb load was given as 3,000kg, with the weight of defensive armament at 2,000kg. Six BMW 801 engines were proposed as an alternative power source, forcing a reduced payload of 2,000kg, but without a reduction in armament, the range would decrease to 12,000km. However, if Jumo 211 inline engines were used, even without a bomb load, range would struggle to reach 11,000km. But the reality was that even if Milch had looked on the project more favourably, the engines were not available in the short term to progress with these plans anyway.

On 15 February 1942, a meeting took place between Milch, General der Flieger Hans Jeschonnek, the Chief of the Luftwaffe General Staff, and Flugbaumeister Walter Friebel, the engineer responsible for aircraft development within the RLM Technical Office. Jeschonnek enquired as to progress and capability for the so-called '*Aufgabe Amerika*' ('America Task'). Friebel responded that neither the Me 264 nor any Heinkel or Focke-Wulf project would have sufficient range to reach the East Coast of the United States. In Friebel's view such missions could only be achieved if an in-flight refuelling method was available, but Jeschonnek was sceptical about such a development.

April saw a series of meetings take place between personnel of the Messerschmitt firm and representatives of the RLM. On the 9th, *Dipl.-Ing.* Flugbaumeister Scheibe of the Technical Office chaired a discussion attended by Voigt, Konrad, Seifert and other members of the *Probü*. On the agenda was the possibility of fitting the Me 264 with Jumo 211 engines as used in the Ju 88. With a projected all-up weight of 42.9 tons, it was calculated that the Me 264 would have a range of 12,300km at an altitude of between two to three kilometres. The aircraft would need to be fitted with four auxiliary rocket-assisted takeoff units providing thrust of 1,000kg and burning for 45 seconds each over a takeoff distance of 1,100m. Armour protection planned at two tons would reduce the range by 1,600km to 10,700km.

In April 1942, Generalfeldmarschall Milch appointed his old colleague, Generalmajor Carl-August *Freiherr* von Gablenz, Chief of the RLM Planning Office, to act as inspector for the Me 264 project. A pilot and director of Luft Hansa, as well as a Luftwaffe officer, he viewed the aircraft as 'a step in the direction of future development'.

It was planned to build the first two Jumo 211-powered prototypes, the V1 and V2, without weapons and equipment. The V3, similarly powered, was to be fitted with a bomb-bay and weapons. A fourth prototype, the V4, was also planned and, despite any resistance from Milch, was to be the first 'V' machine to be fully equipped for an initial projected series production of 30 aircraft.

On 14 April Milch summoned the head of his Planning Office, Generalmajor Carl-August *Freiherr* von Gablenz, to instruct him to head a 'commission' that was to journey to Augsburg to establish once and for all what was happening there, and to assess, realistically, just how far advanced the Me 264 programme was.

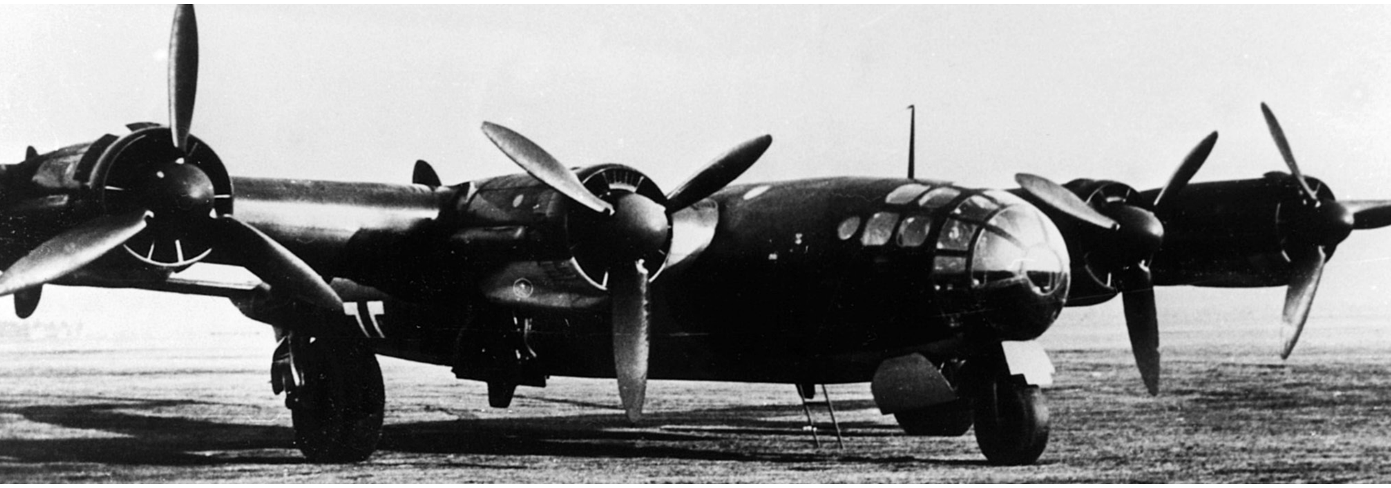
Von Gablenz, who had known Milch for many years and served on the executive board at Luft Hansa, was an extremely experienced technician, airman and a veteran long-range pilot. In 1934 he had flown a Ju 52/3m on a 14,000km flight from Berlin-Tempelhof via Belgrade, Athens, Cairo, Baghdad, Calcutta, Allahabad, Rangoon, Bangkok, Hanoi and Canton to Shanghai, involving 58 hours of flying time. More relevantly, two years later he had flown from the Azores to New York and, during a further flight to the Far East in 1937, he piloted a Ju 52/3m from Tempelhof to Sian via Kabul, through the Pamir Mountains and the Hindu Kush, force-landing in Afghanistan and enduring a month's captivity at the hands of Chinese rebels in the caravan city of Chotan. During the early years of World War II von Gablenz was in charge of the Luftwaffe's transport units before joining Milch's Generalluftzeugmeister's office. If anyone could grasp what was happening with the Me 264 it would be von Gablenz.

Milch requested von Gablenz 'to coordinate the Me 264 programme' in conjunction with the Technical Office. Firstly, he wanted to establish whether the aircraft would live up to Messerschmitt's promises, and to what timetable. Secondly, by what date could the Me 264 be reasonably expected to commence 'military operations'. And thirdly, if and how the '*Aufgabe Amerika*' could be accomplished more efficiently and more quickly 'by other means'. Prior to leaving for Augsburg, von Gablenz carried out some preliminary research, and responded to each of Milch's questions as follows:

> 'The following points will answer the various questions:
>
> '*Question 1* – With the Jumo 211 engine, the intended objective – nuisance raids against America – cannot be reached. Occasional missions with mid-air refuelling would be possible, however the aircraft would not be suitable for continuous [non-stop] operations.
>
> '*Question 2* – Of the three V-aircraft [prototypes] under construction, the first could be finished after full resumption of work within five to six months. The two others would follow about two months later.
>
> '*Question 3* – The departments concerned are aware of the labour effort required. However, it is thought advisable to provide for a

> new cockpit – which has been demonstrated as a mock-up – from the fourth aircraft onwards, even if a delay would thus be caused. In this version, the crew seating arrangement has been considerably improved as compared to the original version. It is advisable, however, not to delay the manufacturing process. In such a case, the change could be made at a later date (sixth or seventh aircraft).
>
> '*Question 4* – Properly supported military deployment with the expected results cannot be obtained with the Me 264. It is necessary, however, to have a number of aircraft in operation for other long-range missions, to the effect that the type can be employed operationally on occasion over the Atlantic with the object of armed reconnaissance, keeping contact with bomber units, cooperation with U-boats, the dropping of radio-location buoys behind convoys to facilitate location by bombers or U-boats and similar missions. In view of the present non-availability of fast, long-range bombers, it is necessary to quickly allocate aircraft for such tasks. At the same time, as shown under Question 5, the Me 264 is a step in the direction of future development.
>
> '*Question 5* – As pointed out in the foregoing replies, only a limited solution of the '*Aufgabe Amerika*' is offered by the Me 264 in its present stage of development. So far, the other projects submitted do not offer an increase in range as compared with the Me 264.
>
> 'The task of undertaking nuisance raids against the American East Coast demands so much from the design of the aircraft that it appears impossible at the moment to find a solution without an intermediate development stage. Therefore, the Me 264, represents a vital intermediary stage in development.
>
> 'From the designs so far submitted by various companies, only a new suggestion by Messerschmitt to increase the Me 264 to six engines promises to fulfil expectations. The other companies have designs in preparation that may represent the intermediate stage for the solution of the '*Aufgabe Amerika*'. Junkers will shortly fly the Ju 290. The Ju 390, based on this development, does not meet the conditions required for the '*Aufgabe Amerika*'. Currently, Heinkel has put forward the He 177, which at present is the aircraft with the greatest range. But a newly submitted design does not have the required range. Focke-Wulf, having obtained experience in developing the Fw 200 into the Fw 300 design, has also been unable to meet the necessary requirements.
>
> 'Under these circumstances, it appears advisable to continue development work on the Me 264, which has already progressed considerably, under all circumstances.'

By this stage Messerschmitt had accepted that the only expedient way to enhance the Me 264 would be to enlarge the airframe and introduce two further engines, while keeping basic design and equipment unchanged. This would be accomplished by extending the fuselage by two additional frames and increasing the wing area to



A member of the flight crew can just be seen inside the cockpit of the completed Me 264 V1 revealing how far back the pilots sat in the cockpit, mainly as a result of needing space to accommodate the large nosewheel housing. This view of the Me 264 V1, RE+EN, which shows the size of the engine units and landing gear. The cockpit glazing offered good all-round vision. Note the access ladder on the other side of the aircraft.

around 170sq m. Whether the new engine power was to be provided by DB 603, DB 614 or Jumo 213 units was left open. Messerschmitt also proposed that in such a configuration, the aircraft be fitted with additional armament in the form of remotely-controlled MG 131 or MG 151 twin-gun turrets in the forward and rear fuselage.

The *Probü* completed work on the basic design of a six-engined aircraft in May 1942, incorporating options to allow a second machine to tow the main aircraft into the air, with mid-air refuelling and the fitting of up to six underwing rocket units to conserve fuel during takeoff. This latter configuration would have given the Me 264 a range of 18,000km with a five-ton bomb load.

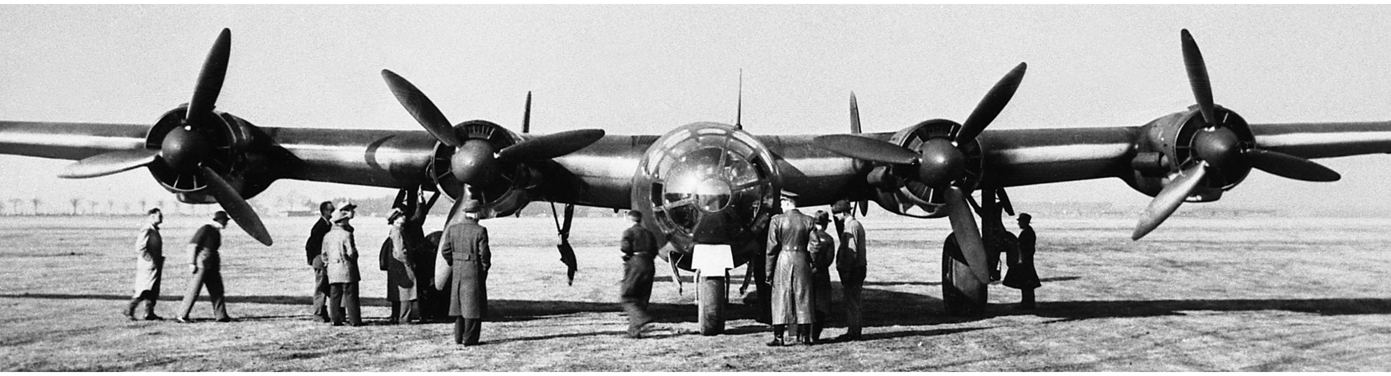
Meanwhile, on 19 April, another important officer arrived at Augsburg who would not, necessarily, have been in favour of the new proposals – Generalstabs-Ingenieur *Dipl.-Ing*. Roluf Lucht, a senior engineer with the RLM. He had informed Milch of his concerns over Professor Messerschmitt's continual reworking of his designs. Milch duly despatched Lucht to the Bavarian aircraft plant to carry out his own investigations on the '*Amerika Bomber*'. Lucht arrived to discover 'Messerschmitt a broken man. He was physically at a very low ebb and crazy with emotion. He was crying like a baby.' When Lucht reported back to Milch, the State Secretary and Generalluftzeugmeister had had enough. He wanted Messerschmitt gone from his position as head of his company so that he could be left to concentrate solely on design work.

Eventually Messerschmitt resigned as Chairman and Managing Director of Messerschmitt A.G., to be replaced by Theo Croneiss, a World War I flying veteran, Chairman of the Messerschmitt Shareholder's Committee and a man with close links to the Nazi Party. Professor Messerschmitt's activities would be restricted to that of Technical Director and Head of Development, and he was to play no part in the day-to-day affairs of the company. But Milch warned Croneiss that unless the situation within Messerschmitt did not improve he would consider appointing a 'Kommissar' to run things.

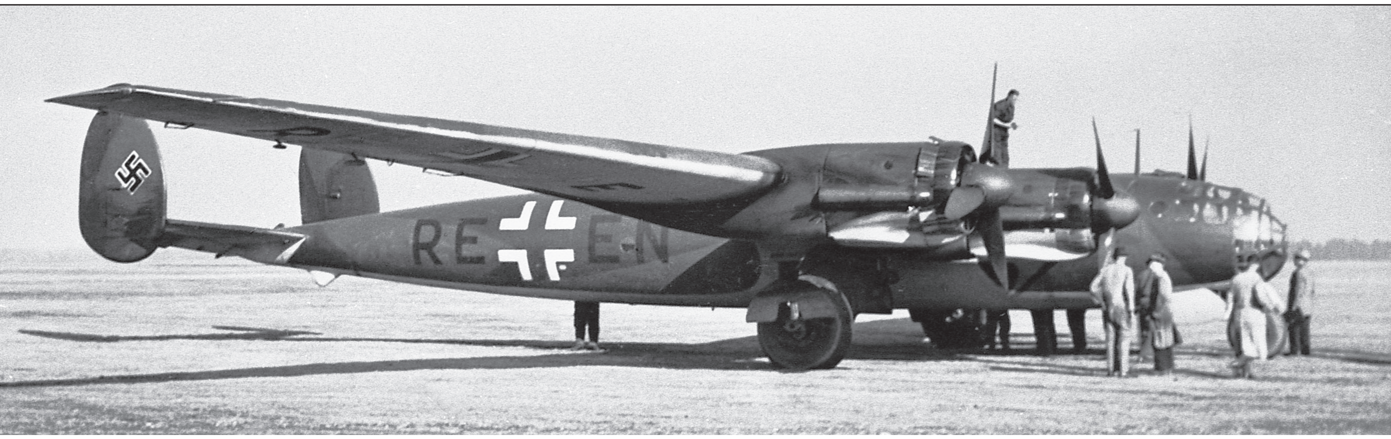
The Luftwaffe VIPs continued to arrive at Augsburg. On 24 April the first members of the von Gablenz commission appeared, led by Major Edgar Petersen. Petersen had commanded KG 40 and was one of the Luftwaffe's leading anti-shipping pilots, having flown the Ju 88 and Fw 200 and been awarded the Knight's Cross. In late 1941 he had been appointed *Kommandeur der Erprobungsstellen* (Commander of Test Centres). Petersen was accompanied by *Dipl.-Ing.* Flugbaumeister Scheibe and a team of specialist engineers and pilots with long-range experience.

The next morning the RLM delegation met with Messerschmitt, Croneiss, Voigt, Seifert, *Dipl.-Ing*. Hederer, Head of the Messerschmitt Technical Office, and *Dipl.-Ing.* Gerhard Caroli, Head of Flight-Testing. The Messerschmitt team presented Petersen with the most recent blueprints, plans and performance projections for the first three Me 264 prototypes. The designs were virtually complete, and it was only the wait to obtain DB 603 engines that was delaying progress. The Commission put forward the option of using Jumo 211 engines as an alternative, but the Messerschmitt representatives responded that the objective of reaching America using an aircraft weighing 43 tons in such a configuration would not be possible without refuelling. Alternative engine configurations were discussed, including the use of the BMW 801 and the feasibility of extending the fuselage to increase the fuel load.

During the afternoon von Gablenz arrived, and Professor Messerschmitt quickly presented him with a report in which he outlined his vision for deployment of the Me 264 on 'Atlantic Operations'. Despite the overriding challenge of range, Messerschmitt foresaw a scenario in which formations of Me 264s equipped with Rb 50/30 cameras would search the Atlantic for enemy convoys, and when a convoy was found, they would drop FuG 302 C *'Schwan'* radio buoys to guide the U-boats towards it. In addition to search and shadowing operations, the Me 264 would strike at enemy merchant and naval vessels using the latest anti-shipping weapons, and be able to defend itself with increased armament. Messerschmitt envisaged the aircraft having a flight duration of 45 hours and a cruising speed of 350km/h, although when equipped with GM-1 nitrous-oxide power booster units it would be able to remain at 8,000m



Civilian and Luftwaffe personnel gather around the Me 264 V1 at Augsburg or Lechfeld. Note the thickness of the inner wing leading edge and how the tall Luftwaffe officer in the leather greatcoat stands roughly half the height of the aircraft.

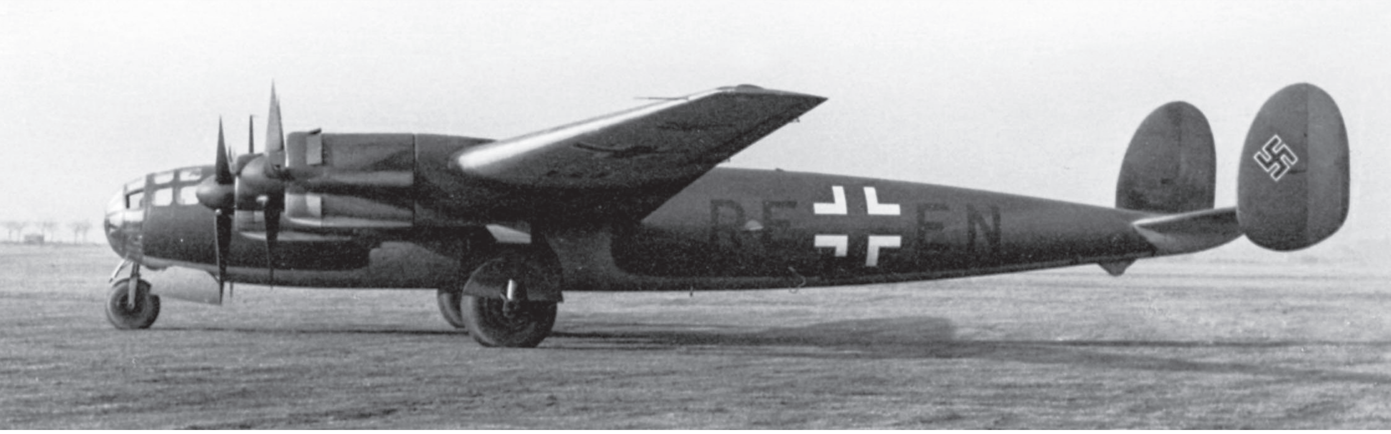


A starboard side view of RE+EN, taken between test flights.

for approximately 25 minutes at more than 600km/h. By reducing bomb load to 2,000kg, range would have been 11,000km.

Petersen submitted his report to Milch on 7 May. Crucially, he projected that the Me 264 could be available for operational missions against the United States by the autumn of 1943. He wrote:

> ‘In its current configuration, the aircraft is designed as a four-engined long-range aircraft without pressurised cockpit, with bombs and armour as well as manually-controlled gun stations. Engines are either four 801Ds or four Jumo 211Js. Using the 211J powerplant, estimated range is 13,000km, and with the 801D it is 14,000km. Takeoff weight is 45 metric tons in both cases. Thus, the East Coast of America is just within range. A 2,000kg bomb load is possible if the armour and window guns are dispensed with. With regard to the performance, using the 801D the aircraft just meets the specified requirements. The airframe’s suitability for overloaded takeoffs can only be determined after evaluation. The first prototype will be ready to fly in the autumn of this year, with V2 and V3 following during the winter. Full-scale production would get underway in the winter of 1942/43, with operations using single aircraft possibly beginning in the autumn of 1943.
>
> ‘We know of no other aircraft that has the same range with a similar speed and payload. In conclusion, the consensus is that it would be worthwhile to build the project, submitted by Messerschmitt A.G., and utilise the type for Atlantic operations. Regardless of whether the type would be able to reach the American East Coast in all circumstances, there is still an urgent need for a long-range aircraft with the ability to scout the Atlantic as an armed reconnaissance platform and act as a reconnaissance aircraft and convoy shadower for He 177 formations.
>
> ‘Other important roles for such an aircraft include:
>
> 1. Joint operations with U-boats.
> 2. Shadowing convoys.
> 3. Dropping radio buoys behind convoys to plot their locations for bombers and U-boats.



A port side view of the Me 264 V1, showing the low profile and ground clearance for what was a large aircraft.

4. Long-range maritime reconnaissance operations.

> 'In view of the current shortage of high-speed bombers it is recommended that a limited number of aircraft be built with the caveat that they should be employed operationally only if fitted with the new all-round canopy glazing and instrument suite.'

In all probability, Petersen's report 'saved' the Me 264 and served to convince Milch to continue with its development, for the aircraft offered a way of giving the *Führer* the means with which to carry out long-range harassment missions against the United States and the inherent propaganda value that came with such missions.

By 12 May von Gablenz had returned to Berlin and met with Milch, Jeschonnek and other senior officers to discuss the Me 264. Flugbaumeister Walter Friebel, the engineer from the RLM, opined that while the first and second prototypes might be flight-ready in 1943, it was unlikely that the aircraft would be ready for operations ahead of 1944. One benefit to this would be that more sophisticated weapons should become available, including aerial torpedoes and remote-controlled bombs and missiles. In time for the meeting, von Gablenz had also prepared an extensive report for Jeschonnek on the general status of trans-oceanic aircraft projects as being developed by several of the leading aircraft manufacturers. When it came to the Messerschmitt, he noted:

> 'Investigation has shown that contrary to the assertion made by Messerschmitt, a direct return flight from America is probably not possible with so little fuel reserve. However, compared with the other proposals, the lesser all-up weights and materials requirement, plus four engines as against five or six, make this design so much better that in the opinion of the Generalluftzeugmeister this is the aircraft to order and, accordingly, attempts will be made to resolve the difficulties of under-capacity at Messerschmitt. If it is possible to resume the interrupted course of development work on the Me 264, then we can have the prototypes this year, get the programme of flight-testing over with during 1943, and have the machines operational in 1944.

‘The simplifications to the design suggested by the RLM *Technisches Amt* (normal unpressurised cockpit, proven engines, no bomb-aimer’s position) were made so that development could be continued despite the under-capacity at Messerschmitt (which would otherwise involve very long delays in production or cancellation of the contract) and to get the aircraft into the air. Furthermore, on account of the increasing delay in trials and introduction of the DB 603 engines, it is not expected that the engines will be ready for the 30-hour endurance run in 1943/44.

‘Even the Me 264 will need mid-air refuelling on the American route, but this is possible with the alternative engines. Particular value is placed on this assurance as it was assumed by the Generalluftzeugmeister that fitting alternative engine types and simplification of the Me 264 would mean giving up the idea of trans-oceanic operations. The solution of a Me 264 six-engined variant was theoretical because of the firm’s under-capacity. Mention must be made of the special characteristics associated with these trans-oceanic aircraft and their performance. They require long runways (on average a two-kilometre run before takeoff). The aircraft are fitted with landing gear – a jettisonable undercarriage is provided for takeoff.

‘Tactically, problems of stability and lack of manoeuvrability rule out dive-bombing. For nuisance raids against American land targets, night bombing will be in the horizontal attitude. In operations over the sea, the size of the aircraft is particularly disadvantageous. Normal aerial torpedoes are envisaged, but remote-controlled missiles would be best.

‘Planning and development work is in hand to launch small parasite aircraft from these very large aircraft to carry out attacks. Test aircraft of this type are under construction and the basic trials regarding mounting them on the mother aircraft have been partly completed and should be finished during the course of the year. The parasite aircraft will be very small (six square metres as against the 14 square metres of the Bf 109) jet-propelled single-seaters designed for flights lasting from 30 minutes to an hour. They should be especially suitable for direct attacks on shipping using one or two bombs of 1,000kg aggregate weight. Experiments to solve the problem of how the mother aircraft can recover the parasite are also in hand. Besides bombing, the parasite aircraft can be used to defend against enemy fighters. A Ju 390, for example, can carry two parasite aircraft. The aircraft can be re-armed with bombs aboard the mother aircraft. To summarise, therefore, in accordance with the suggestions of the Generalluftzeugmeister in the area of trans-oceanic aircraft, the following have been approved:

1. The four-engined Me 264 will be proceeded with as the quickest possible solution for operations against the United States.

Oberst-Ingenieur *Dipl.-Ing.* Dietrich Schwencke of the *Erprobungsstelle* Rechlin was commissioned by Milch to undertake a study into the capabilities of the long-range aircraft projects available to the Luftwaffe. Schwenke's report assisted in changing Milch's opinions about the Me 264.

> 2. The necessary mid-air refuelling procedure will probably be worked out during 1942.
> 3. For distances up to about 10,000km, the Ju 390 is better (heavier loads, better armament, parasite aircraft).
> 4. Investigations with the object of achieving a return flight to and from America without refuelling (six-engined Me 264) will be stepped up.
>
> 'Use of the Ju 290 for distances up to 8,000km will be investigated with a view to using the aircraft to refuel the four-engined Me 264.'

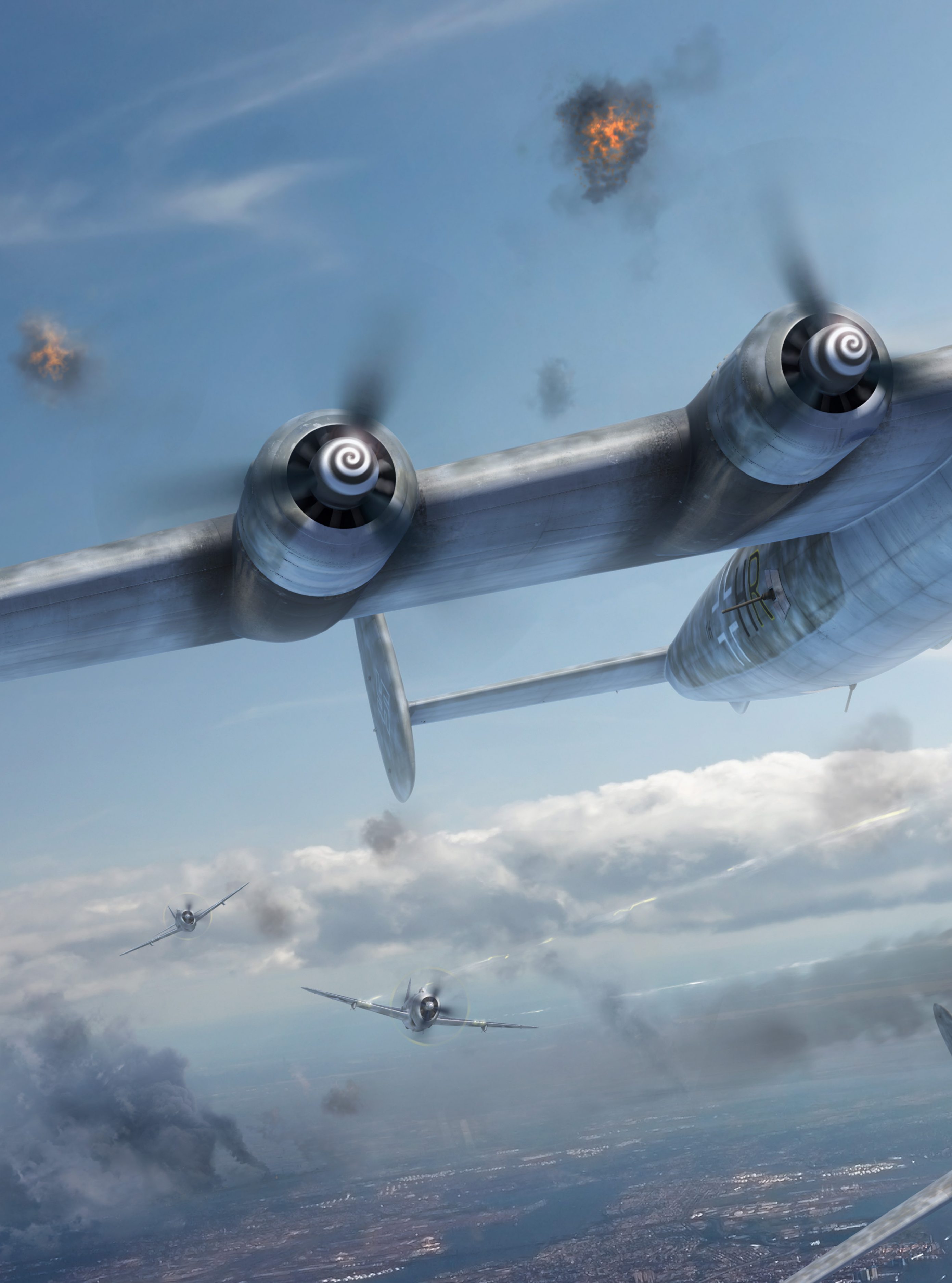
A week after his consultation with Jeschonnek, von Gablenz and Friebel, Milch met with another RLM engineer and former test pilot, Oberst-Ingenieur *Dipl.-Ing.* Dietrich Schwencke, who was based at the *Erprobungsstelle* (testing centre) Rechlin. The previous month, on instruction from Göring, Milch had asked Schwencke to produce a report on the various types of long-range aircraft available to the Luftwaffe, and to outline the most suitable missions to which each could be assigned. Schwencke's report had been most thorough and, besides aircraft, examined the movement of vitally needed commodities such as tin, rubber, copper, molybdenum, tungsten and platinum, as well as the key supply routes (for example between Germany and Japan), potential military targets (in the Soviet Union, and in West Africa, Egypt, Iraq and Iran, where the British had a military, maritime and/or naval presence or where they had vital supply interests).

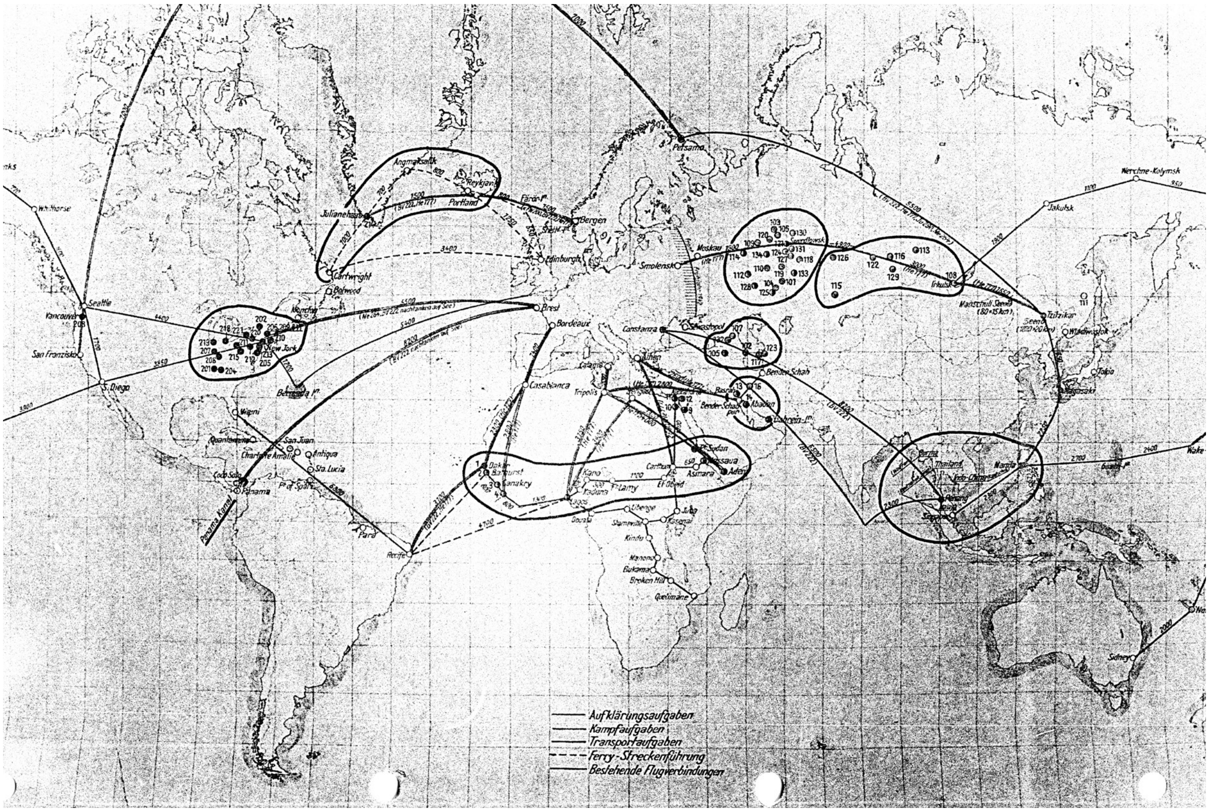
In dealing with the United States, Schwencke noted that American aluminium works and aero-engine plants, propeller factories and armament plants could be attacked only by the Me 264 fitted with DB 613 engines, carrying a 5,500kg offensive load and operating out of Brest, in western France. On the other hand, if the Azores could be used as a transit landing ground and refuelling point, then it would be possible to reach US targets with the He 177 (five-ton bomb load and refuelled), the BV 222 (4.5-ton bomb load and refuelled), Ju 290

NEXT PAGES

The Luftwaffe Over New York

Under attack from USAAF P-47 Thunderbolts based on alert at Floyd Bennett Field in Brooklyn, a pair of Me 264 long-range bombers from KG 26 turn over New York City moments before entering their bomb-run, having crossed the Atlantic from their base in Germany in mid-1945. The aircraft are fitted with 20mm MG 151 cannon barbettes on their forward and aft upper fuselages, a single 13mm MG 131 machine gun in a barbette installed in the rear underfuselage, single MG 131 barbettes on each side of the fuselage and a single nose-mounted MG 131. On such a mission, the Me 264 would have been capable of carrying a mixed load of two SC 2500 (or two SC 1800) and three SC 250 general-purpose bombs, or six SD 1000 fragmentation and three SC 250 bombs. The aircraft are depicted finished in typical late-war mottle schemes, and they carry the black lion on a yellow shield *Geschwader* emblem of KG 26 – a unit very experienced in anti-shipping and over-water bomber operations.

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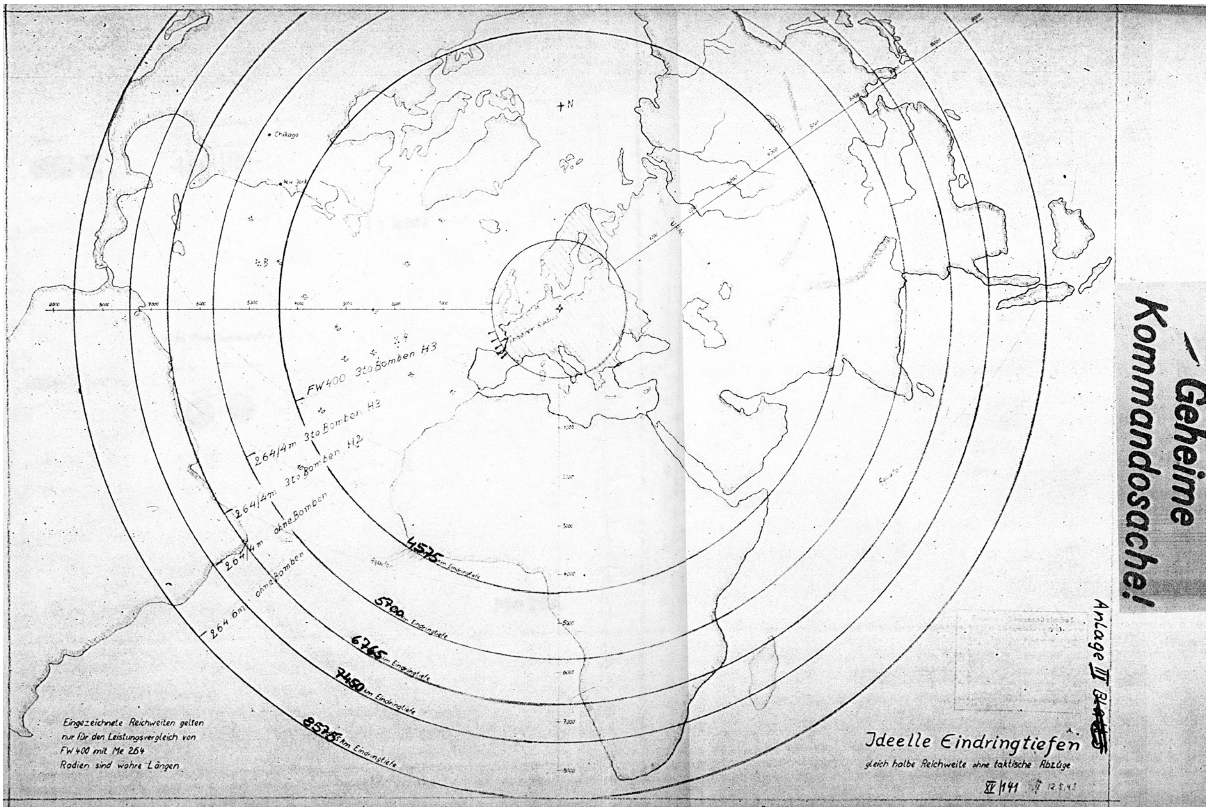
Thailand
Indo-China
Sidney
Aufklärungsaufgaben
Kampfaufgaben
Transportaufgaben
Ferry-Streckenführung
Bestehende Flugverbindungen

A global map prepared in 1942 by Oberst-Ingenieur Schwencke showing planned reconnaisance, bombing, transport and courier flight paths for the BV 222, He 177, Me 264 and Ju 290. The numbers on the map correspond to potential bombing targets. The Me 264 is shown on the routes from Brest, in western France, to New York, around which are located several key industrial targets, and from Petsamo, in Finland, to Manchuria.

(five-ton bomb load) and the Me 264 (increased 6.5-ton bomb load). The report listed no fewer than 21 potential targets in North America and Greenland, including aluminium plants in Tennessee, New York, North Carolina and in Canada, aero-engine plants such as Pratt & Whitney and Hamilton Standard Propellers in Connecticut, Allison in Indiana and Curtiss Wright in Pennsylvania and New Jersey, tank and vehicle works in Pennsylvania, Connecticut and Michigan and instrument and optical glass plants in New York.

Von Gablenz had also read Schwencke's report and recommended building a run of 30 heavily armed and armoured Me 264s for anti-shipping operations in the 1,500km stretch of ocean between Newfoundland and New York. This part of the Atlantic was busy with naval and merchant shipping, and the Luftwaffe officers reasoned that the Me 264 could cooperate with U-boats. Milch concurred, stating 'There could be a whole host of opportunities there'. Yet when it came to attacks on New York, Milch told von Gablenz and Schwencke that the distance estimates had been incorrectly calculated. The distance from the French coast to New York had been calculated at 6,700km, while the direct return flight was calculated at 13,400km, which, including a ten per cent fuel reserve, amounted to a fuel requirement for 14,750km. However, as Milch pointed out, Brest was only 5,500km from New York, the true fuel requirement being for a flight in the region of 12,100km.


Chikago
New York
FW400 3to Bomben H3
264/4m 3to Bomben H3
264/4m 3to Bomben H2
264/4m ohne Bomben
264 6m ohne Bomben
4575 km Eindringtiefe
5700 km Eindringtiefe
6765 km Eindringtiefe
7450 km Eindringtiefe
8575 km Eindringtiefe
Eingezeichnete Reichweiten gelten nur für den Leistungsvergleich von FW 400 mit Me 264
Radien sind wahre Längen
Ideelle Eindringtiefen
gleich halbe Reichweite ohne taktische Abzüge
XV/141 12.5.43
Anlage III ~~Blatt~~
Geheime Kommandosache!

A world map, dated 12 May 1943 and produced by Messerschmitt, indicating the range capabilities of the 'Fw 400 3-ton bomber' and various Me 264 variants. According to these calculations the Focke-Wulf would fall far short of the US East Coast compared to the Me 264.

If agreement was given to proceed with construction of 30 Me 264s, they would be able to operate along the entire length of the US East Coast, striking at key cities and towns, rather than shipping. The prime objective would be to tie down US air defences and:

> 'to force the Americans to divert some of their armaments productions to their own defences. We don't have to send a whole air fleet over there. With just a few aircraft much can be achieved. The idea is not to demolish America, but only to force the US to erect anti-aircraft defences. Therefore, not only New York, but also other areas of the US should be on the receiving end of our bombs. Perhaps we could even fly from Petsamo, in Finland, over the North Pole to San Francisco. That is probably not much further. Including the ten per cent reserve, it is 7,700km.'

Euphoria over the Me 264 must have steadily grown, for by early May 1942 the RLM was demanding that Messerschmitt produce the first 30 machines as soon as possible.

CHAPTER FOUR

FLIGHT TEST AND DEVELOPMENT

Messerschmitt engineers, including *Dipl.-Ing.* Gerhard Caroli, the head of flight-testing (centre), are seen here in discussion by the inboard starboard Jumo 211 engine of the Me 264 at Augsburg. Visible in the cockpit is the hatted figure of test pilot, Flugkapitän Karl Baur.

By mid-July 1942 no fewer than three Me 264 prototypes were undergoing construction at Messerschmitt Augsburg. The company projected that the first prototype machine, the Me 264 V1, would be ready for flight-testing on or around 10 October. This proved to be somewhat optimistic thanks to the delay in the delivery of key components. Furthermore, until matters were firmed up in respect of the V1, testing dates could not be given for the planned V2 and V3. Production of a fourth prototype was cancelled altogether due to a lack of capacity.

The main problem facing Augsburg was its unreliable suppliers, as Production Director, Fritz Hentzen, recorded. 'All prototype and pre-production versions are suffering from a lack of externally supplied parts and finished components.' Indeed, in the case of one supplier, the majority of its skilled workforce had been drafted and it was forced to pass work on to a sub-contractor. The latter also found it difficult to fulfil the order because some of its workforce had been called up too. The following month Hentzen admitted that there was no chance of the V1 being completed in October since VDM, the company making the aircraft's undercarriage, had failed to deliver to schedule. 'In general', Hentzen warned, 'acquiring externally supplied parts and, more recently, even engines, for the prototype aircraft is proving most difficult and is resulting in serious delays in the programme'. As with VDM, Junkers' promised deliveries of Jumo 211s were proving hollow.

On 7 August Göring chaired a conference in Milch's office at which Professor Messerschmitt was in attendance along with Major Dietrich Peltz, a highly decorated bomber pilot who was serving as commander of the bomber unit leaders' school in Italy. Peltz had stopped over in Augsburg on his way to Berlin and inspected the Me 264. Although he had been impressed with the aircraft, and said so, Göring was less accepting. 'You won't find a pilot to fly a crate like that with unprotected fuel tanks for wings,' he stated. Messerschmitt responded, 'The *Herr* Reichsmarschall is perhaps confusing it with its predecessor [the Me 261]. In accordance with the RLM contract, I have built the Me 264 with protected tanks, at least in the wings, as the British do, and this aircraft is equipped with the BMW 801 engine for a range of about 15,000km, throttled back.'

Later in the meeting, Göring told the aircraft designer, 'I would hug you if you gave me just a few machines – they don't need to make it to New York, just to the mid-Atlantic, where we can get at the convoys.' The Reichsmarschall echoed his sentiments at another conference in September. 'It really is the saddest chapter. I do not have one single long-range bomber. I look at these four-engined aircraft of the British and Americans with real envy – they are far ahead of us in this.' Göring decreed that with immediate effect all new bombers, including those intended for transatlantic operations, were to be fitted with four-gun rear turrets in a similar manner to the British Stirlings, Lancasters and Halifaxes that were now regularly bombing Germany.

For his part, Milch remained sceptical over any scheduling from Messerschmitt and did not believe the company capable of delivery until 1946/47. But Professor Messerschmitt remained impervious to such doubts, assuring Berlin – somewhat unrealistically, if not over-optimistically – that by the time the V4 was completed, work on equipment and armament would be sufficiently advanced so as to allow the first combat missions to be flown against the United States in 1944 while simultaneously undergoing test-flying.

Meanwhile, in the *Probü*, the weight of the aircraft was becoming a problem. To compensate for this, a jettisonable main landing gear was developed, planned for use with the V2 onwards, which would allow an increase in gross takeoff weight from 28,000kg to 46,000kg. Tests using a twin nosewheel on a specially converted Bf 109 revealed that compared to a single nosewheel, manoeuvrability had decreased, although there was no shimmying. Problems followed with comparison tests between a standard twin-nosewheel using 350×220mm tyres and one fitted with large, non-standard 620×220mm tyres, as planned for the Me 264.

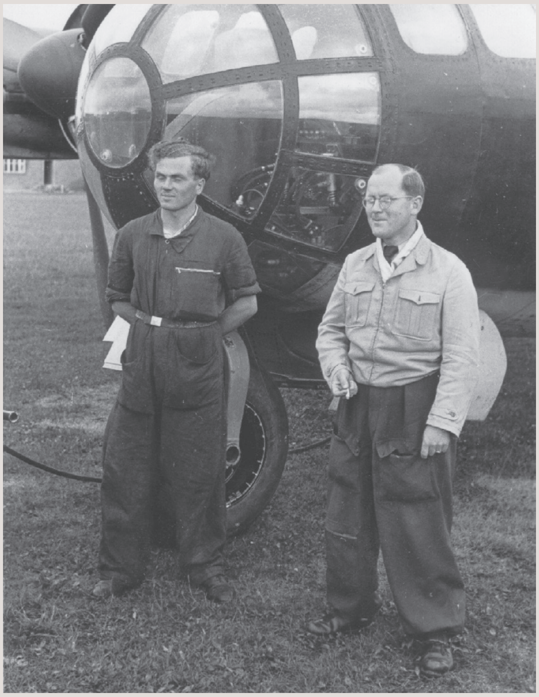
On 10 November 1942 it was decided that the Me 264 V1 was sufficiently ready to assess flight characteristics. Fitted with four Jumo 211J engines, the aircraft, known to Messerschmitt by its internal designation 'M III', would feature a cockpit incorporating the relevant controls for the pilot, but there would be no armour,

Flugkapitän *Dipl.-Ing.* Karl Baur

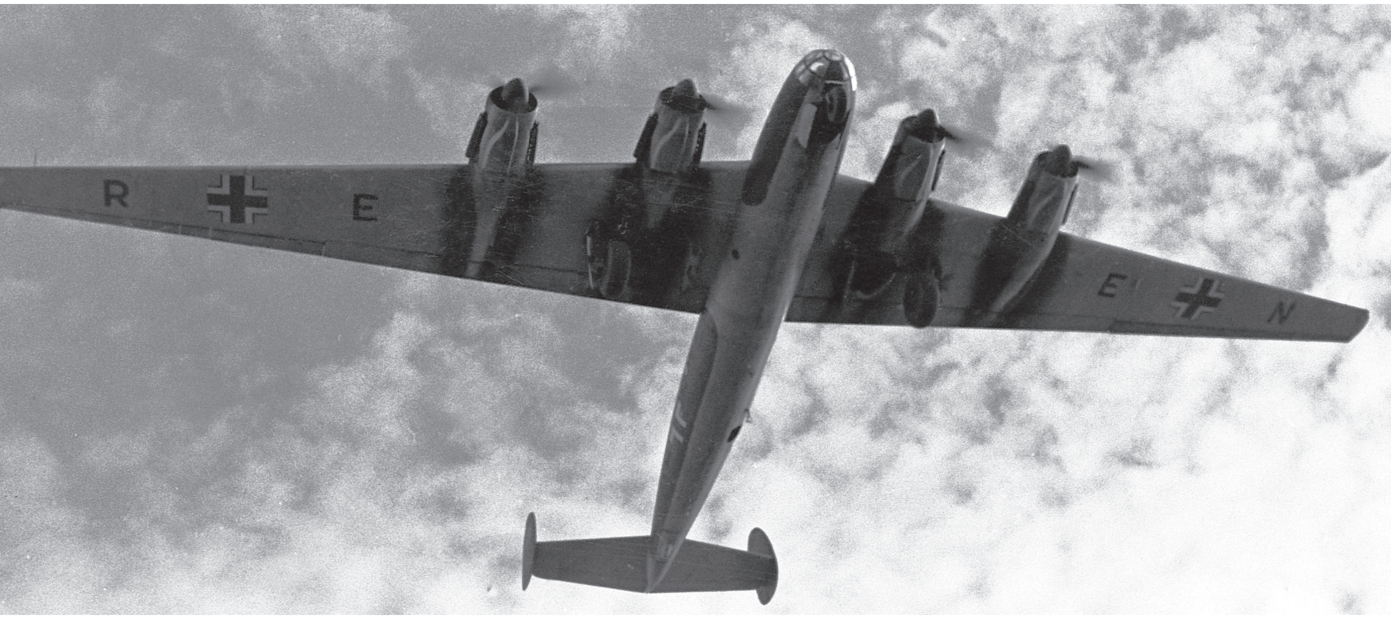
Perhaps more than any other man, Karl Baur became deeply involved in the flight-testing and assessment of the Messerschmitt Me 264. He flew the '*Sudeten*' on at least 30 occasions, and his subsequent reports contained information that was vital to the Messerschmitt designers and project engineers.

Karl Baur was born in Laichingen, Württemberg, in southwest Germany on 13 November 1911, the fourth child of restaurant and butcher shop owners Jakob and Katherine Baur. His childhood was happy, but he left home at a young age in 1923 to attend school in Stuttgart. In the summer of 1929, Karl enrolled on a four-week youth camp for those interested in learning to fly. The camp had been organised by veteran pilots of World War I, and Baur's first introduction to an aeroplane was the Heinkel He 21 biplane. Initially, he satisfied his desire to fly by building model gliders and won a long-distance competition when his rubber band-powered model managed to fly 100 metres.

For a while, Baur worked in motor car and aircraft workshops (the latter being one of the few permitted to build small, single-engined sports aircraft under the terms of the Treaty of Versailles) in the Stuttgart area as part of his apprenticeship. During the late 1920s and early 1930s, he spent as much time as he could on the Wasserkuppe mountain learning to fly gliders along with hundreds of other young Germans. Here, he got to know Wolf Hirth, a famous glider pilot and one of the great pioneers of post-war German aviation. Baur impressed



Flugkapitän *Dipl.-Ing.* Karl Baur (right) enjoys a cigarette in the company of a member of his ground crew in front of the glazed nose of the Me 264 V1 at Augsburg in 1943. The nosewheel housing is just visible inside the cockpit.



Hirth, who invited him to participate in events in which his flying club took part.

Baur felt uneasy when the Nazis came to power in 1933, and he resisted initial attempts by them to roll up the club into the newly formed National Socialist Flying Corps. However, he continued his association with Wolf Hirth and also Professor Walter Georgii, head of the *Deutsches Forschungsinstitut für Segelflug*, working with them as an instructor at Hirth's soaring school at weekends. In March of the following year, Baur undertook a 6½-hour duration flight in a sailplane over a snow-covered Hornberg mountain, following which he was awarded his International Silver 'C' Badge.

In September 1935 Baur travelled with Hirth overland, via Siberia, to Japan, where there was a requirement for two qualified soaring instructors. In Japan, Hirth and Baur were given honorary Japanese military ranks. Returning to Stuttgart in February 1936, he joined the *Deutsche Versuchsanstalt für Luftfahrt* (DVL – the German Test Establishment for Aviation) at Berlin-Adlershof. Here, Baur was assigned the task of coordinating the activities of the university flying clubs, including organising trans-Alpine gliding flights. In 1937 Baur worked as an instructor at the first soaring school in Portugal. Using his natural talent for languages, he conducted his lectures and seminars in French.

Following brief spells at the DVL in Berlin and a Luftwaffe school in Sorau in 1938, he was assigned to the *Erprobungsstelle* Rechlin, where he undertook an investigation into how trained engineers could be used as test pilots in the aircraft industry. Baur was shocked at how little had been done in this area, and he tried to coordinate the training of pilots with engineering degrees, but it was not an easy task. There was a wide range of aeroplanes available to him, but such was their age and variety – including pre-World War I designs and abandoned prototypes – that it was virtually impossible to introduce any kind of standardised curriculum for would-be pilots.

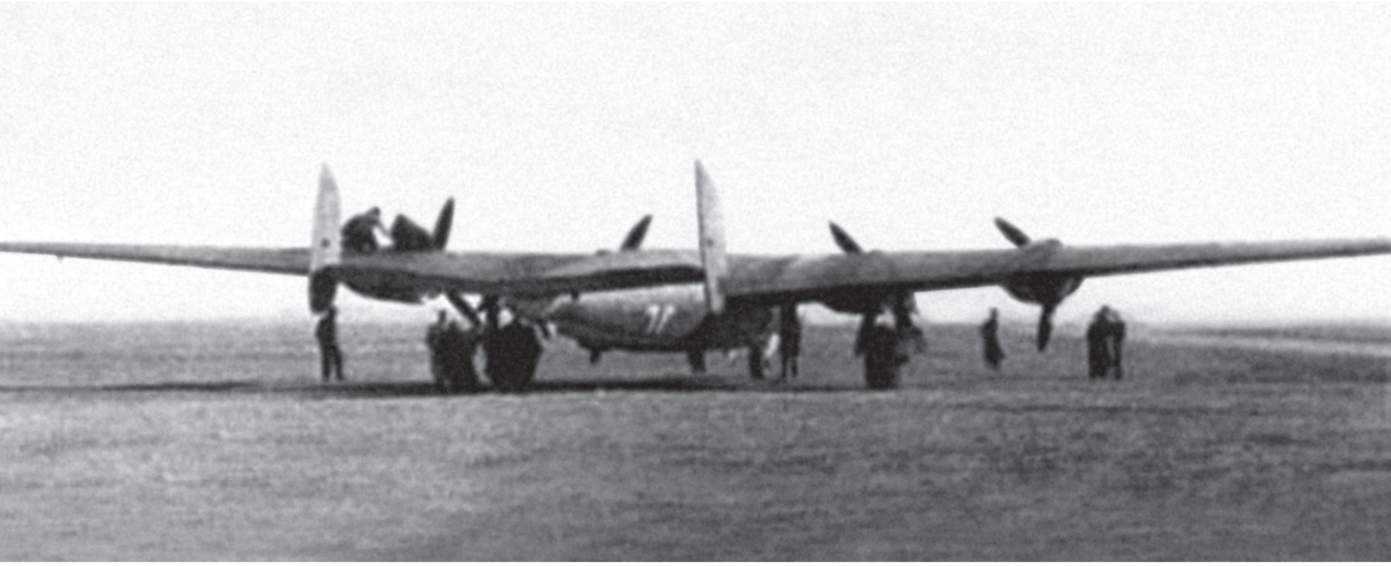
By August 1939 Karl Baur had flown 87,000km in 1,121 hours over 2,855 flights in some 60 different types of aircraft. Seven months later he was offered the position of test pilot with Messerschmitt A.G. in Augsburg. Throughout a long and accomplished career with the company, Karl Baur flew the Bf 109, Me 209, Me 309, Me 210, Me 410, Me 261, Me 264, Me 321, Me 323, Me 163 and Me 262. On 30 April 1943, he was awarded the War Service Cross, 1st Class.

In May 1945 Baur, together with his immediate superior and colleague from the Messerschmitt testing department at Augsburg, Gerhard Caroli, worked with Col. Harold E. Watson of the USAAF and his unit, 'Watson's Whizzers', to demonstrate key German aircraft for American evaluation as part of Operation *Lusty*. After working briefly in the United States, Baur returned to Germany in December 1945. He took a job as a sales representative with a car battery manufacturer in Stuttgart. Then, in August 1954, he was offered a position with the Chance Vought Aircraft Corporation in Dallas. By then bankrupt and in poor health, he eventually succeeded in making a life for his family in the USA prior to his premature death in Texas on 12 October 1963.

Me 264 V1 RE+EN passes overhead during a test flight from Augsburg. The aircraft had a wingspan of 43m. Note the undercarriage is lowered, indicating that this photograph may have been taken during either the maiden flight or an early test flight.

armament/gun turrets or bomb release equipment. Simultaneously, the company's engineers calculated comparable performances using four BMW 801D, DB 603H or Jumo 213A-2 engines. It was felt that a significant improvement in engine performances would be achieved at altitudes up to 8,000m using the DB 603H and Jumo 213 compared with the BMW 801D, but the Daimler-Benz and Junkers engines were still not available.

For the next six weeks work continued at an accelerated pace until finally, on 23 December, Messerschmitt announced that the Me 264 V1, Wk-Nr. 26400001, coded RE+EN, had been completed, with engines delivered and fitted. The aircraft was now ready for its first flight. The day dawned cold and grey as the aeroplane was towed out of the assembly hall under the supervision of *Dipl.-Ing*. Gerhard Caroli, who would oversee the flight-test programme. Then, a short ladder was placed against the fuselage access panel and the diminutive figure of Flugkapitän *Dipl.-Ing*. Karl Baur, one of Messerschmitt's most experienced test pilots who had been closely involved with the Me 264 since construction of the V1 prototype had first started, climbed aboard.

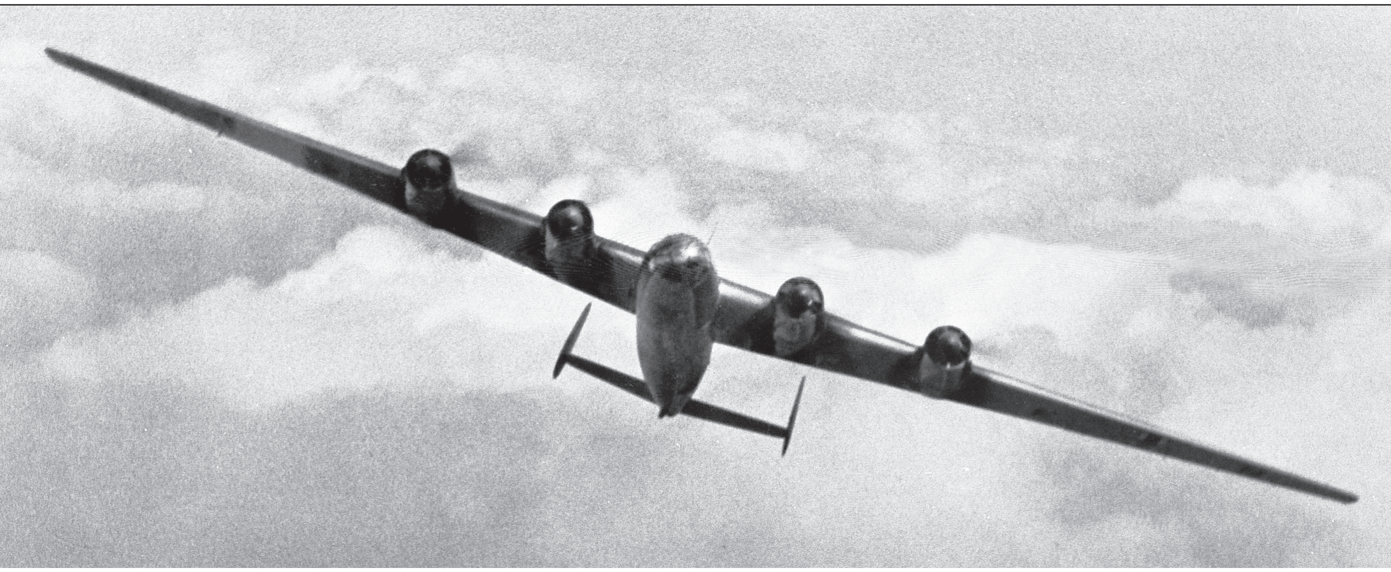


Technicians work on the Me 264 V1 in this rare view of the rear of the aircraft at Lechfeld.

After running up the aeroplane's four 12-cylinder, liquid-cooled Junkers Jumo 211J-1 engines, Baur taxied around the airfield and then prepared for takeoff. Generally, everything went smoothly, although it was decided to leave the landing gear down during the flight because of some initial safety concerns. Bauer subsequently reported:

> 'Takeoff presented no particular problems. Holding things in a straight line was not a problem. In fact, the nosewheel could have been retracted half way through the takeoff run. The angle of the aircraft was three degrees on takeoff, and was such that the nosewheel left the ground and could have been retracted. The rudder pressure was too high, but by using the trim tabs this problem was overcome. The aileron controls are quite sharp and can be compared with the Me 261 V3, which has a 90sq m wing area. There was a sudden jolt when dropping the landing flaps, which was compensated for by adjusting the elevators. The green indicator light to show that the landing flaps are extended did not function. Following landing, and having carried out an inspection, it was found that one of the hinge points was bent, which prevented the flaps from fully extending.'

Worsening weather forced Baur to terminate the flight after just 22 minutes, and as he came in to land, he realised the brake system had failed. The Me 264 ran the entire length of the runway and kept going before coming to a stop in a ploughed field. Baur immediately informed Caroli that the brakes were inoperable, the landing flaps and suspension had been damaged and that the aileron indicator did not function. He also noted that some of the instruments in the cockpit would need to be repositioned such as the rev counter indicator and the pressure gauge, which he asked to be moved so that they would be within the pilot's field of vision. Despite these shortcomings, Baur reported that the Me 264 was 'a beautiful aeroplane – equal to the American B-24 bomber'.

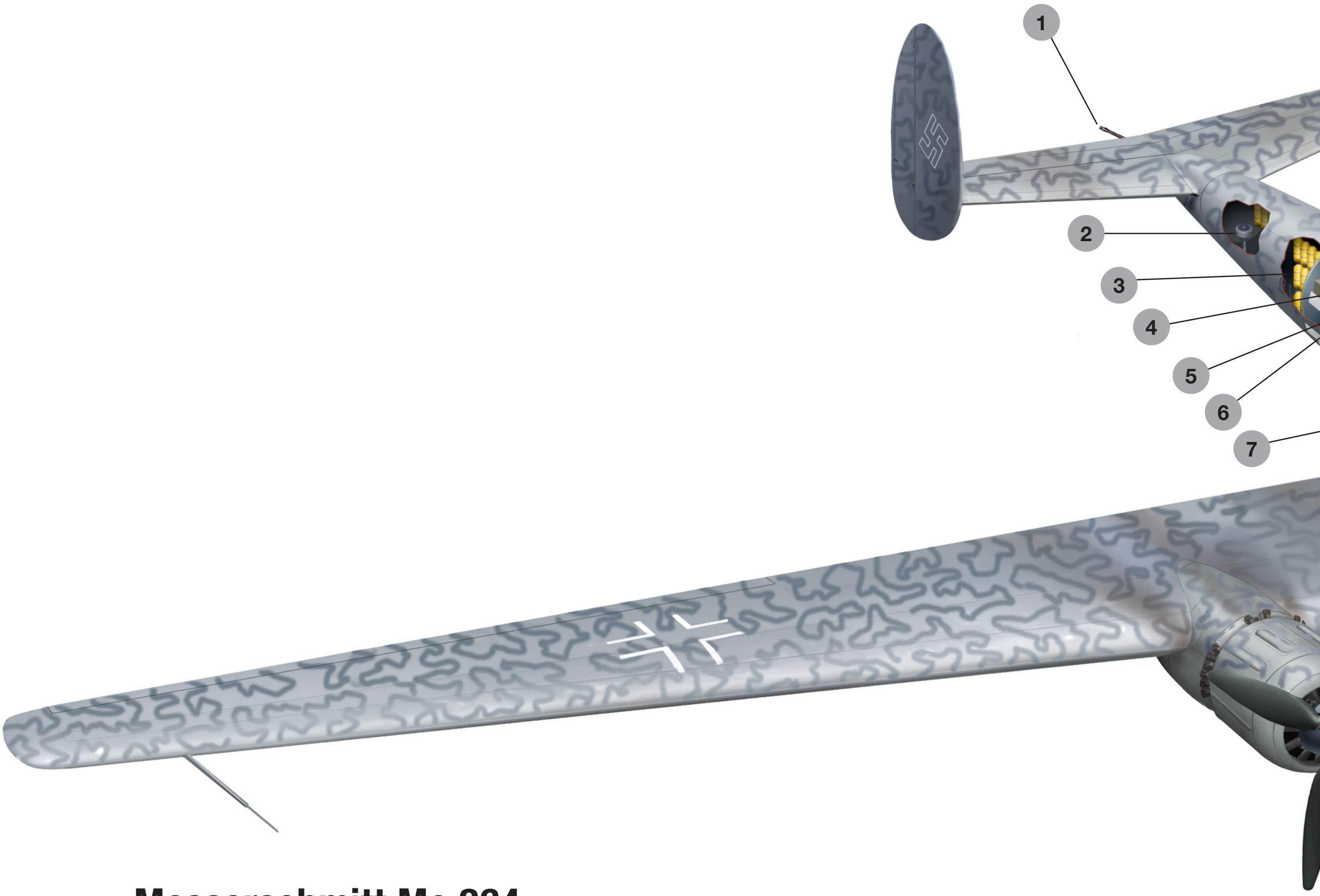


For a large aircraft, the Me 264 had a remarkably elegant frontal profile, despite the thickness of the high wing leading edge.

From then until 6 March 1943, the V1 would fly 11 more test flights with Baur at the controls. Some problems persisted. For example, the forces on the controls were far too high, particularly those related to the tailplane, and Baur was also unhappy about exhaust fumes penetrating the cockpit. During the second test flight, which did not take place until 20 January in rainy skies, Baur again struggled with the poor layout of the controls and the smell of fumes. He also found that the rudder and aileron forces were still too high – he had to adjust them by using trim tabs.

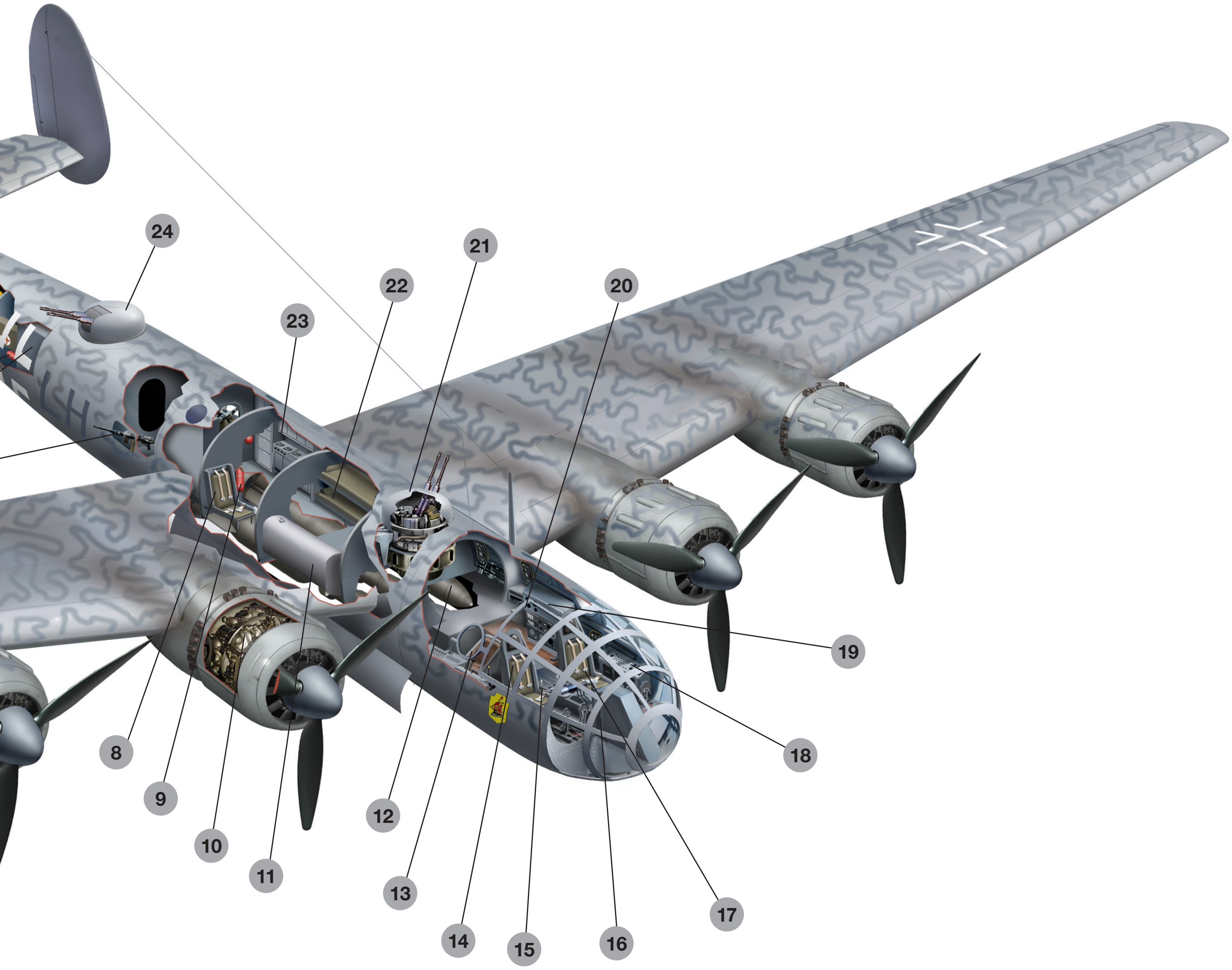
On landing, Baur encountered the same problem as he had done on the first flight, the aircraft again using the entire length of the runway. Fortunately, on this occasion, he was able to bring the aeroplane to a stop just in time. Baur attributed this to the fact that the runway was both wet and muddy – indeed, the underside of the aircraft had become caked in mud and dirt from the ground on takeoff. This meant that on a dry runway, the required landing distance would be much shorter. Baur also reported that, similarly, during takeoff the glazed nose became spattered with dirt from the nosewheel. Rudder pressure had to be reduced by using the trim tabs. Elevators appeared to function without problem. Finally, Baur noted that the nosewheel felt unbalanced and the landing flap on the starboard, in-board wing was damaged.

Subsequently, it was decided to transfer the testing 20km further south, to Lechfeld, near Schwabmünchen, where there was a sufficiently long concrete runway, but this move was delayed due to the prevailing bad weather. Although Lechfeld had only one hangar big enough to accommodate the Me 264, conditions there were better than at Augsburg, where the soft, grassy surfaces presented problems for such a large, heavy four-engined aircraft. Meanwhile, on the fifth flight from Augsburg, the underside of the fuselage was slightly damaged when it accidentally scraped the ground. The hydraulics system also failed, resulting in the landing gear becoming jammed and unable to retract.



Messerschmitt Me 264

1. Rear MG 151 cannon
2. Master compass
3. Oxygen supply
4. First aid
5. Fire extinguisher
6. Toilet
7. Waist MG 131 machine guns (open, or in WL 131 mount)
8. Crew seating and table
9. Fire extinguisher
10. BMW 801 radial engine
11. Aircraft oil reservoir
12. Bomb-bay
13. Navigator's station
14. Seats for pilot and co-pilot
15. Control column
16. Instrument panel
17. Seats for pilot and co-pilot
18. Flight control consoles
19. Radio operator's station
20. Radio equipment
21. Upper forward turret fitted with MG 151 cannon in HD 151/2 barbette
22. Crew bunks
23. Galley
24. Upper rear turret fitted with MG 151 cannon in HD 151/2 barbette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Eventually, on 22 January, the Me 264 (by now given the codename '*Sudeten*') flew to Lechfeld, where testing would continue for the next two months. Baur was in the air again on 1 February for the sixth test flight to assess flight characteristics and to endeavour to overcome persisting problems in retracting the landing gear. Furthermore, although the elevators responded easily, aileron and rudder forces were still found to be excessive at high speeds and changes made had displaced the centre of gravity. Although directional stability was deemed as 'satisfactory', there was room for improvement, and Baur recommended that longitudinal stability be tested further with varying centres of gravity and stabiliser settings. The re-fitting of the nose landing wheel was found to make a definite improvement.

Baur rated general performance to be fair, and recommended several improvements be made, especially to certain mechanical defects in the brakes, radio and cabin pressurisation system. The engines' manifold pressure and idling speeds also varied, and the aeroplane's control forces were still too high. Finally, minor defects were found in the electrical cabling for the intercom system. On 12 February Baur noted that reduced rudder deflection was sufficient for takeoff, but the aileron linkage rods showed too much slack due to a failing of one of the servo controls.

Gerhard Caroli joined the flight test programme from mid-February, and he found that the forces against the control surfaces were still too high, especially at high speed. Small defects were still present in the radio system and landing gear too. The faulty trimming and controls revealed that an eventual change in the entire control system would inevitably be needed. Flights with two or three engines were found to be satisfactory, but in flights with the automatic controls it was found that the servos were not powerful enough to pilot such a heavy aircraft.

On 26 February Caroli and Baur conducted further tests on the still unreliable landing gear, three-axle control and flight on one engine. By using the rudder carefully, a speed of 600km/h was attained, but Baur noticed that the airspeed indicator was showing a much higher speed than was actually the case, suggesting, in fact, a failure in the rudder mechanism. At an altitude of 1,800m, the required trim deflection of the rudder was established by switching off power in all but one engine.

During the first half of March, flights were made to assess direction-finding, stability and to establish the front and rear centres of gravity during takeoff and landing. It was discovered that in horizontal flight at cruising speed with the undercarriage extended, speed reached 290km/h, but when the undercarriage was retracted, speed increased to 410km/h. However, before any further flights were carried out, Baur urged that a number of corrections be made as a matter of priority, including the installation of rudder counter-balance horns, a small tailwheel and a new steering column. He also recommended moving the axis of the tailplane to reduce pressure and the electrics distribution unit on the underside of the fuselage away from the running engines (as had been the case with the six-engined Messerschmitt Me 323 transport). Furthermore, Baur requested that new main wheels be fitted to allow the support of greater weight.

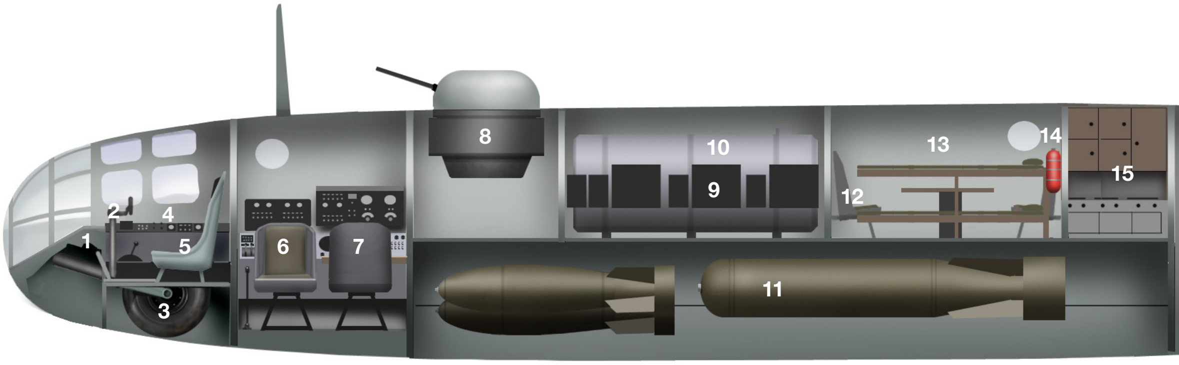
On 4 March the right in-board engine began to stream smoke after 15 minutes in the air while a check of the auto-pilot system was being made, but there was no danger to either the aircraft or crew. A new engine had to be installed, which served to suspend further air-tests for three days. By this stage the Me 264 V1 had undertaken 11 test flights totalling 12 hours of flying time.

With a new engine fitted, the aeroplane commenced a series of test-flights on 9 March to check stability and pilot control. On one of these (its 12th flight) the automatic flight control system suddenly failed. To compound things, the sceptical engineer from the RLM, Flugbaumeister Walter Friebel, had arrived at Lechfeld to assess how the test programme was progressing. He watched from the ground as the propellers were tested during climb and high-speed flight, but once again the right in-board engine presented problems when it became overheated and had to be stopped in flight. Unfortunately, when Friebel joined the next flight (the 13th), he was able to gain little true impression of the aeroplane as it was in the air for just 27 minutes – the reasons for this are unknown.

On the 14th flight it was not possible to feather the left, outboard engine. The right in-board engine had to be stopped due to increased oil temperature and there was also an oil leak. However, after 15 minutes, the propellers started to turn freely. Finally that day, the aircraft was tested to assess operational performance at low-level. Upon landing, it was found that the exhaust covers were damaged and they were not replaced for later flights.

Over the next two days the Me 264 underwent maintenance on its problematic engine. Additionally, new starter motors were fitted. When this was completed, Baur took the Me 264 up on a flight lasting just over two-and-a-half hours to test longitudinal stability, followed by a second flight in which the engines were feathered. Between 13 and 22 March, the aircraft remained on the ground while a new control column was installed and replacement trim tabs for the rudders were fitted. By 15 March the aircraft had flown 14hrs 10min and made seven flights. Engine running time had amounted to 22hrs 39min for the left out-board unit, 22hrs 21min for the left in-board, 20hrs 15 min for the right in-board unit (but this engine had been replaced on 9 March and the new unit had been run for 4hrs 52min) and 22hrs 31min for the right out-board unit. Somewhat worryingly, the more recent test flights using only two or three engines compared unfavourably with similar, earlier tests. A thorough evaluation of the hydraulics system was also conducted.

Meanwhile, interest in the Me 264 was beginning to generate within the Luftwaffe. In late 1942, Oberstleutnant Theodor Rowehl, the commander of the *Versuschsstelle für Höhenflug* (VfH – Experimental Test Centre for High-Altitude Flight), began to take a close interest in the Messerschmitt as a potential high-altitude reconnaissance aircraft.



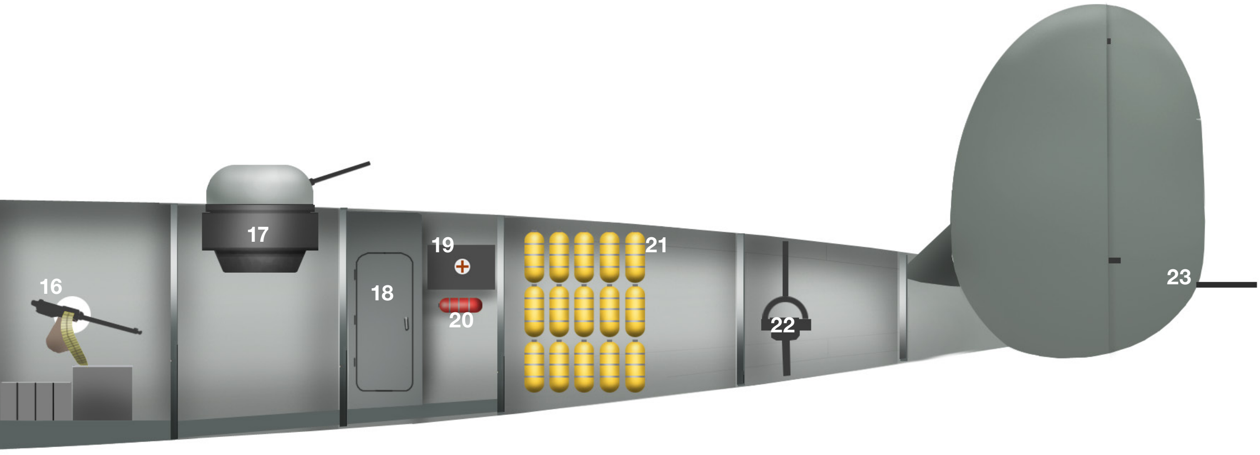
Messerschmitt Me 264

1. Instrument panel
2. Control column
3. Nosewheel (retracted)
4. Flight control consoles
5. Seats for pilot and co-pilot
6. Radio operator’s station
7. Navigator’s station
8. Upper forward turret fitted with MG 151 cannon in HD 151/2 barbette
9. Radio equipment
10. Aircraft oil reservoir
11. Bomb-bay, loaded with two SC 2500 and three SC 250 general purpose bombs
12. Crew seating and table

Although not a pilot, Rowehl had been awarded the Knight’s Cross in October 1940 in recognition of his services flying reconnaissance missions. While broadly accepting the Me 264 design, Rowehl believed the aircraft would benefit from the installation of high-altitude BMW 801 engines and eventually GM1 power boost, together with increased armament. He went further to suggest that all Me 264s, including the V1, should be finished as high-altitude reconnaissance variants.

On 27 January 1943, *Dipl.-Ing*. Karl Seifert of the Messerschmitt *Probü* held discussions with members of the VfH in order to draw up a mutually acceptable specification for a revised *Fernaufklärer* (long-range reconnaissance) version that would also have assault transport capability and be able to carry 20 paratroops. The aircraft would have its bomb-bay area removed so as to accommodate the seated paratroops in their own compartment, together with an exit ramp. In reality however, these ‘paratroops’ would most probably have been agents intended for deep cover sabotage and spying operations in enemy territory. Certainly, the crews of the VfH had already undertaken agent-dropping missions.

It was agreed that four air-cooled BMW 801G engines should be used in the *Fernaufklärer* since these were at a more advanced stage of development than the DB 603 and Jumo 213 alternatives, and they would include a GM1 facility of 600kg thrust for 25 minutes.



13. Crew bunks
14. Fire extinguishers
15. Galley
16. Waist MG 131 machine gun (open, or in WL 131 mount)
17. Upper rear turret fitted with MG 151 cannon in HD 151/2 barbette
18. Toilet
19. First aid
20. Fire extinguishers
21. Oxygen supply
22. Master compass
23. Rear MG 151 cannon

The aircraft would carry three Rb 50/30 cameras, but would feature no armour protection, pressure cabin or heating/de-icing systems. Armament would consist of one MG 131 in the '*A-Stand*' (nose), one MG 131 at the '*B-1 Stand*' (forward dorsal), one remote-controlled MG 151 in an HD 151 hydraulic rotary ring mounting in the '*B-2 Stand*' (aft dorsal), one MG 151 in the '*C-Stand*' (ventral) and one MG 151 in retractable mountings in each of the two '*D-Stand*' (fuselage side) positions. Range was estimated at 15,500km, with a takeoff weight of 56 tons, or 13,000km at a takeoff weight of 44.2 tons without external fuel tanks. For such takeoff loads, Seifert included a jettisonable undercarriage in the design specification in the form of two additional tandem wheels fitted to each fixed wheel. The aircraft would require a runway length of 1,900m without underwing rocket assistance units, or 1,100m with underwing units fitted. Once airborne, and with auxiliary tanks jettisoned, speed was expected to be 510km/h at 6,500m.

Meanwhile, on 5 March, Rowehl attended an RLM conference in Berlin on transatlantic and long-range aircraft together with the *General der Aufklärungsflieger* (General of Reconnaissance Flying), Oberst Karl-Henning von Barsewisch, Major Edgar Petersen, the *Kommandeur der Erprobungsstellen* and Oberst Georg von Pasewaldt, the head of the *Amtsgruppe Entwicklung* (Development Section) within the *Technisches Amt*. Von Barsewisch advised that the Kriegsmarine was beginning to recognise that 'a fast land-based aircraft' would be of value for long-range maritime reconnaissance to support its U-boat operations. 'Therefore, we just have to find a way to get the Me 264 into service.'

Pasewaldt agreed. 'The Me 264 must be built, we want it at all costs. But the thing is taking a long time. Meanwhile, we have to make full use of the Ju 290.'

Petersen was less positive. 'I would be careful over exaggerated optimism about the Me 264. It needs 1,600m of runway with rocket assistance and 2,400m without. That's crazy!'

'But it can fly more than 10,000km,' Rowehl stated.

'Anyway, it seems from what was said in the talk with Dönitz that the U-boat war stands or falls by reconnaissance aircraft,' noted von Barsewisch. 'This has been explained to the *Führer*, he has approved it and the Reichsmarschall has promised to fulfil the request. Undoubtedly, we must have a reconnaissance aircraft that can match the demands for mid-Atlantic cover.'

Despite these detailed plans for a reconnaissance aircraft, pressure was also coming from the Luftwaffe's Ordnance Department, which told Messerschmitt 'to hurry the completion of the two remaining Me 264s for so-called "Atlantic Missions"'. This pressure may have been prompted by a suggestion from the highly regarded bomber pilot Major Werner Baumbach, a former commander of KG 30, who, during a 'private meeting' in late 1942 with General der Flieger Jeschonnek, proposed that 'small strategic raids' should be carried out on 'North America' while the Luftwaffe still had bases in western France. In his memoirs, Baumbach recorded:

> 'I thought it would certainly have a great moral effect if we carried out a "retribution" raid on New York. For hours Jeschonnek forgot his worries about the bogged-down air war in the East. He sat up with me discussing all the details of my scheme until long after midnight.'

The problem, however, was that no alternative manufacturing capacity existed at Messerschmitt, Blohm & Voss, Siebel, Focke-Wulf or Weser Flugzeugwerke capable of producing the 30 Me 264 '*Amerika Bombers*' which had been called for by the autumn of 1943, and Baumbach's ideas were quickly forgotten. Indeed, during a conversation with Milch on 12 February 1943, Oberst von Pasewaldt spoke on the possibility of Dornier building Me 264s:

> 'The Dornier company's staff were very mistrustful, and, in any case, have such a workload that they can't handle it. We then took it back, because a reluctant approach is not useful. Besides, the Me 264 is so far nothing more than a flying mock-up. They still can't make anything of it. What are we supposed to do next with a project like that, that is causing us serious problems?'

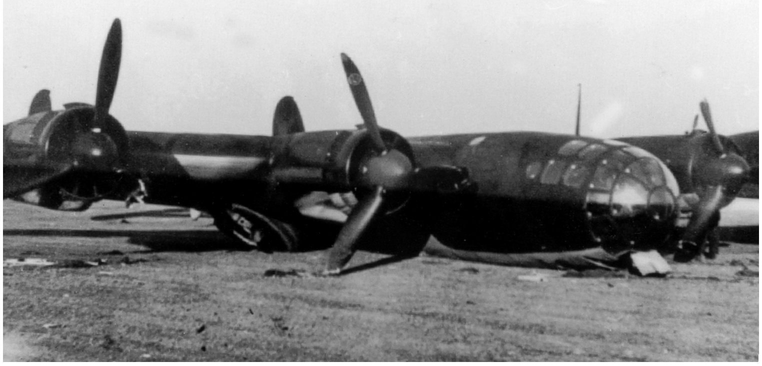
Oddly, just ten days later von Pasewaldt informed Göring that series production Me 264s could start to appear as early as the middle of 1944, despite the fact that production would consume no fewer than 75,000 hours of construction time. A few weeks later, on 13 March, Göring hosted a major conference on aircraft production at his country residence in East Prussia, attended by aircraft manufacturers and senior RLM officials. His mood was dark:

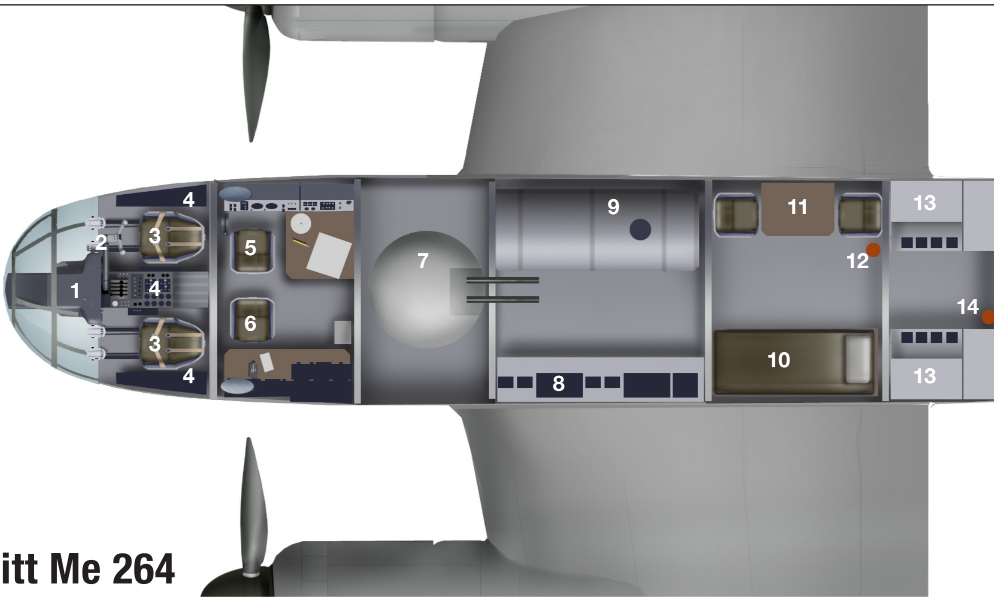
> 'I can only express to you my absolute bitterness about the complete failure which has resulted in practically all fields of aeronautical engineering – bitterness too that I have been deceived in the past to an extent such as I had experienced only in variety shows at the hand of magicians and illusionists – such has been the hocus-pocus that everybody has used to take me in.
>
> 'I well remember that at Augsburg – it was exactly a year ago – I was shown an *Amerika Bomber* that really called for nothing more than to be put into mass production. It was to fly to the east coast of America and back, from the Azores to the American west coast and also carry a lot of bombs. I was told so in all seriousness. But in those days I was still so trusting, I half believed that something like this was possible. Fun has been made of the enemy's backwardness and his slow four-engined crates. Gentlemen, I would be extremely happy if you could produce one of these crates in the immediate future. I would then at least have *one* aircraft with which something could be achieved.'

Just ten days after Göring had harangued his manufacturers and technicians, at Lechfeld, the left oleo-leg of the Me 264 V1 broke during landing at the conclusion of its two-hour-long 17th test flight, which had been intended to monitor steering and general control. Karl Baur reported:

> 'Landing took place with crosswind of approximately six metres per second. At touchdown the left-side landing gear broke. I was able to keep the aircraft in a straightforward position for about 600m. The left wing had ground contact at that point and then the aircraft made a 180-degree turn to the left. The right landing gear collapsed as a result of it, and the front wheel was sheared off. The propellers were damaged on all four engines. The tail of the aircraft had folded and the vertical fin and left outboard wing had been ripped off.'

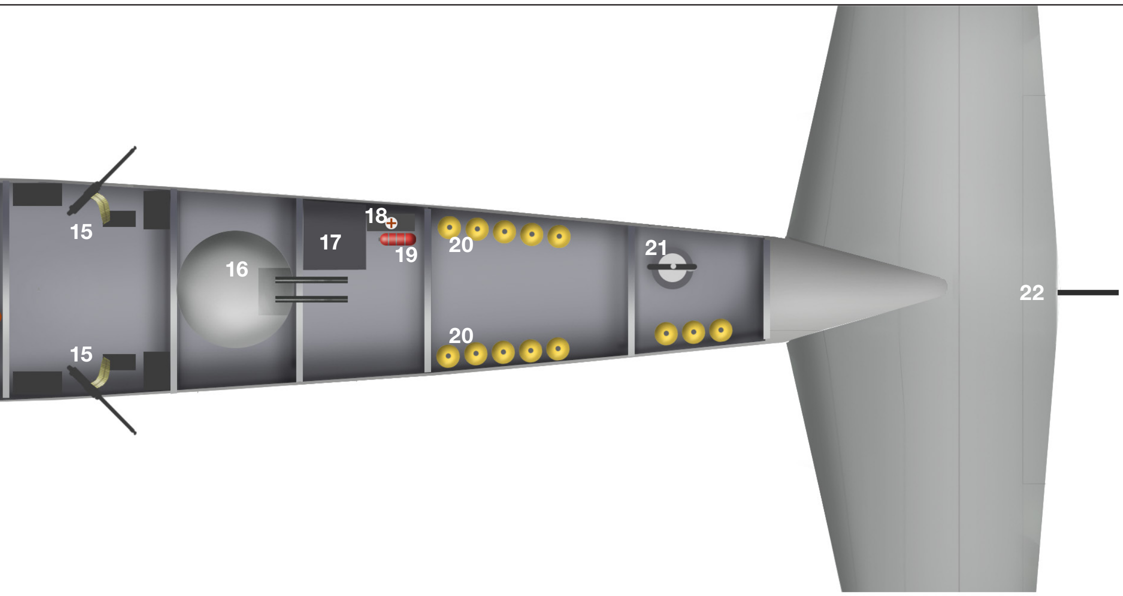
Down but not out. The Me 264 V1 lies forlornly on the grass at Lechfeld, its port-side oleo leg having collapsed at the end of its 17th test flight on 23 March 1943.





Messerschmitt Me 264

1. Instrument panel
2. Control column
3. Seats for pilot and co-pilot
4. Flight control consoles
5. Navigator’s station
6. Radio operator’s station
7. Upper forward turret fitted with MG 151 cannon in HD 151/2 barbette
8. Radio equipment
9. Aircraft oil reservoir
10. Crew bunks
11. Crew seating and table



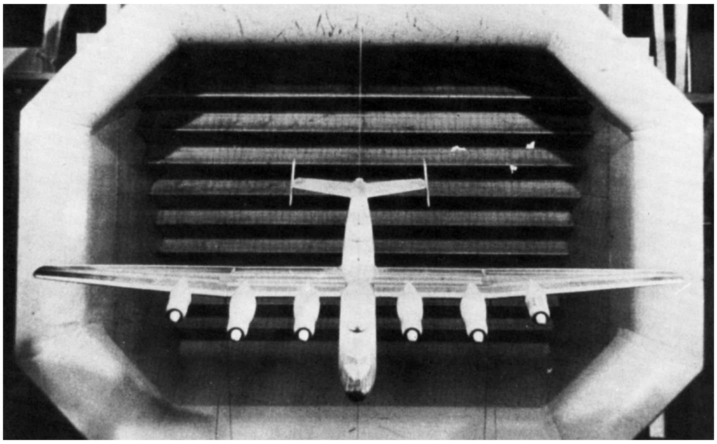
12. Fire extinguishers
13. Galley
14. Fire extinguishers
15. Waist MG 131 machine guns (open, or in WL 131 mount)
16. Upper rear turret fitted with MG 151 cannon in HD 151/2 barbette
17. Toilet
18. First aid
19. Fire extinguishers
20. Oxygen supply
21. Master compass
22. Rear MG 151 cannon

Messerschmitt personnel are about to remove the access panels on the left side outer Jumo 211 engine.

Although this mishap would curtail any further testing until 21 May, while the aircraft was confined to the hangar for repairs it was fitted with a new steering column, a reinforced wing skin, a modified nosewheel drive and new radio equipment. Additionally, major enhancements for the Me 264 came in the form of an improved emergency tail skid, a new tailplane and nosewheel and the installation of four new Jumo 211J engines.

On 21 April 1943, a meeting took place of the key design, development, engineering and testing personnel associated with the Me 264 at Messerschmitt Augsburg to decide on the necessary changes to be made to the flight development programme, such as modifications to the hydraulics, landing flaps and rudders, undercarriage linkage and the apparently unsolvable problem of pressure on the control surfaces.

Six days later, Milch chaired a meeting of the RLM Development Committee. He was openly unconvinced about an aircraft that continued to languish at Lechfeld undergoing repairs for over a month. He enquired of Oberst Alpers of the *Technisches Amt* Procurement Section as to progress with the Me 264. Alpers responded, '30 machines were ordered. Finding room for an order of this size is causing difficulties in Germany because we are already beyond capacity. Junkers suggested we could take over a supplier



The wind tunnel model of the Focke-Wulf Ta 400 six-engined bomber and reconnaissance project. With a 42m wingspan, the Ta 400 was the favoured contender to the Me 264, but in the spring of 1943 it was not envisaged to become available until 1946. Range was projected at 4,800km, with a bomb load of 10,000kg at a maximum speed of 535km/h.

and use the works for assembly as well. I would like to try it. Junkers suggested the works at Toulouse.'

'Doesn't sound too good to me,' Milch replied. 'Isn't there anything else?'

'The problem is the size of the aircraft,' Alpers explained.

'I think there are still many obstacles and difficulties to be overcome before the four-engined Me 264 is a practical proposition,' Milch stated. 'Here again we have the same construction difficulty [as the Ta 400]. What worries me is that it can only get off the ground using rockets. I am no friend of such methods. Of course, I don't blame people for using them to break world records, but they shouldn't be for everyday use. Everything depends on good luck. If just one of the eight rocket boosters fails, the takeoff will come to grief and probably leave us with a write-off. This is the spanner in the works. Things are even more difficult with the six-engined version. We would be over the moon if we could use it to bomb America. With a bomb-load, America is just about within its radius of action of 14,000–15,000km. But it is borderline, and we have to weigh up whether it isn't better to have a seaplane do it in relays.'

'We must not pass over the Ju 290,' noted Pasewaldt. 'She must fly in the form in which she has been reactivated, and for such time until a successor or improved version comes on the scene. In the nature of things, the Ju 290 will continue in the shape of the Ju 390. Consequently, we must not pass over the Ju 390.'

'I can only second the verdicts of von Pasewaldt and Petersen,' stated Generalleutnant *Dipl.-Ing*. Wolfgang Vorwald (Chief of the *Technisches Amt*). 'The Ju 290 and Ju 390 are ready. How many Ju 390s can be built we can leave until later. As for the Me 264, they should complete the prototypes and obtain experience with them.'

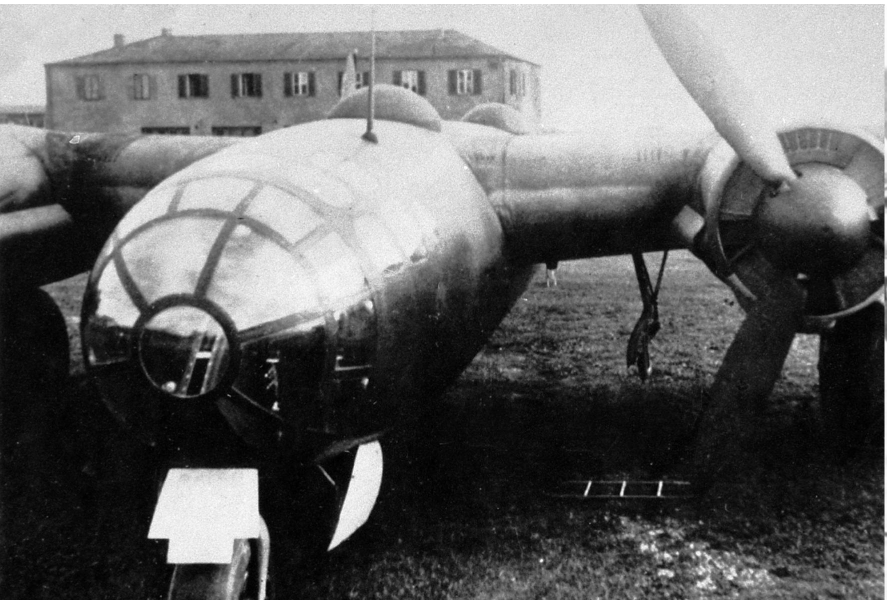
At this point, confusing instructions and contradictions began to blight the Me 264 programme. Despite Vorwald's opinion that Messerschmitt 'should complete the prototypes and obtain experience with them', a teletype message arrived at Augsburg ordering that further work on the aircraft should be abandoned. Little more is known about this message, but regardless of it, Messerschmitt seems to have continued with its work, devoting considerable design office time to the six-engined version of the '*Sudeten*'.

In late April Messerschmitt confessed that the six-engined machine represented the 'limit of development possibilities' and that, as such, its flying qualities did not commend it for operations. Nevertheless, in mid-May, the company's recently appointed Chairman, Friedrich-Wilhelm Seiler, together with *Dipl.-Ing*. Seifert and *Dipl.-Ing*. Hans Hornung of the *Vorprobü* (the preliminary project department) busied themselves preparing detailed performance and technical comparisons. A normal configuration Me 264 with four BMW 801E engines was compared with a similarly equipped six-engined bomber proposal from Focke-Wulf (the Ta 400) and a proposed six-engined Me 264, also fitted with BMW 801Es.

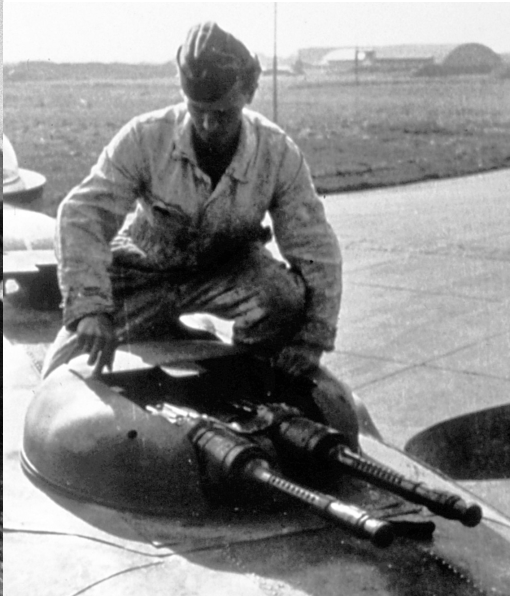
They concluded that while the wingspan of the Me 264 would, and could, be increased, together with the control surfaces, the basic design of the aircraft should not be changed unnecessarily. Furthermore, unlike the Focke-Wulf project, the Me 264 existed and would offer comparable, if not better, performance for less development time. The Focke-Wulf would require more materials such as strategic metals and rubber for its fuel tanks and other areas. The Messerschmitt team also noted that the Ta 400 would consume 60 per cent more fuel than a four-engined Me 264 – or eight tons more fuel per aircraft for a given long-range mission – and even more fuel than a six-engined Messerschmitt.

Theory was fine, but reality rested on the sole example of the V1, which had only just returned to testing from its stint under repair. From late May to early June, several flights were made in order to assess the functioning of the newly configured ailerons and gun turret mock-ups, which had now been installed. However, once again Baur encountered the old problem of excessive forces on both the ailerons and rudders. Furthermore, because of its high wing-loading factor, the Me 264 was not easy to handle, and required the highest degree of skill during takeoff – something that even a pilot of Baur's experience found

BELOW The Me 264 V1 seen here still fitted with its Jumo 211 engines, although its upper fuselage now has two dummy turrets installed for air tests. Operationally, the turrets would have been armed with twin 13mm MG 131 machine guns.

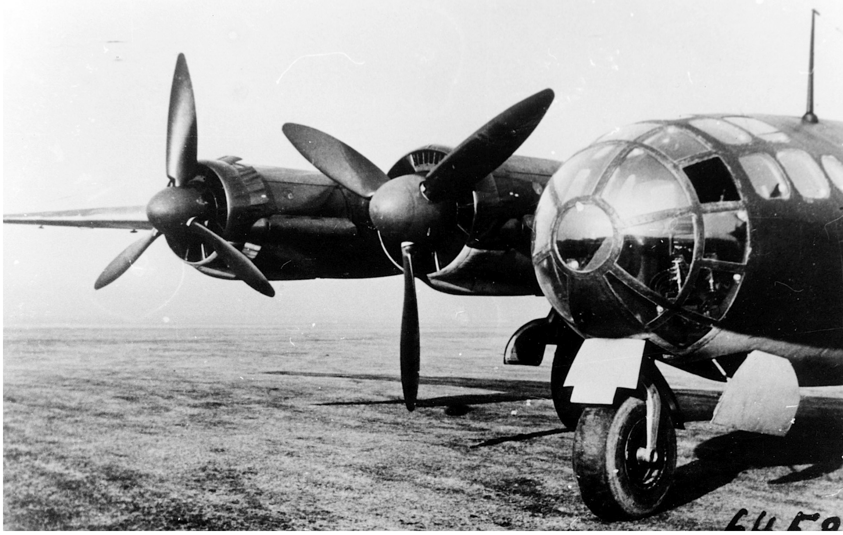


RIGHT A Luftwaffe armourer replaces the top panel of a dorsally mounted, remotely controlled, MG 131Z (*Zwilling*) gun barbette as fitted to an He 177. This system was planned for the Me 264. Also visible is the observation dome from where the gunner would have operated the guns.



a challenge. Nevertheless, on 5 June alone, the Me 264 flew six times for a period of 12hrs 16min.

Messerschmitt's other accomplished test pilot, Fritz Wendel, took the controls of the Me 264 for the first time on 2 June. As Baur had, so Wendel noted 'serious problems' when, once again, the nosewheel jammed on retraction. On the 10th, Flugbaumeister Böttcher of the RLM Aircraft Development Department also flew the machine, and due to the warmth of the summer weather, complained of intolerable heat in the extensively glazed 'greenhouse'-style cockpit. A few days later he noted:



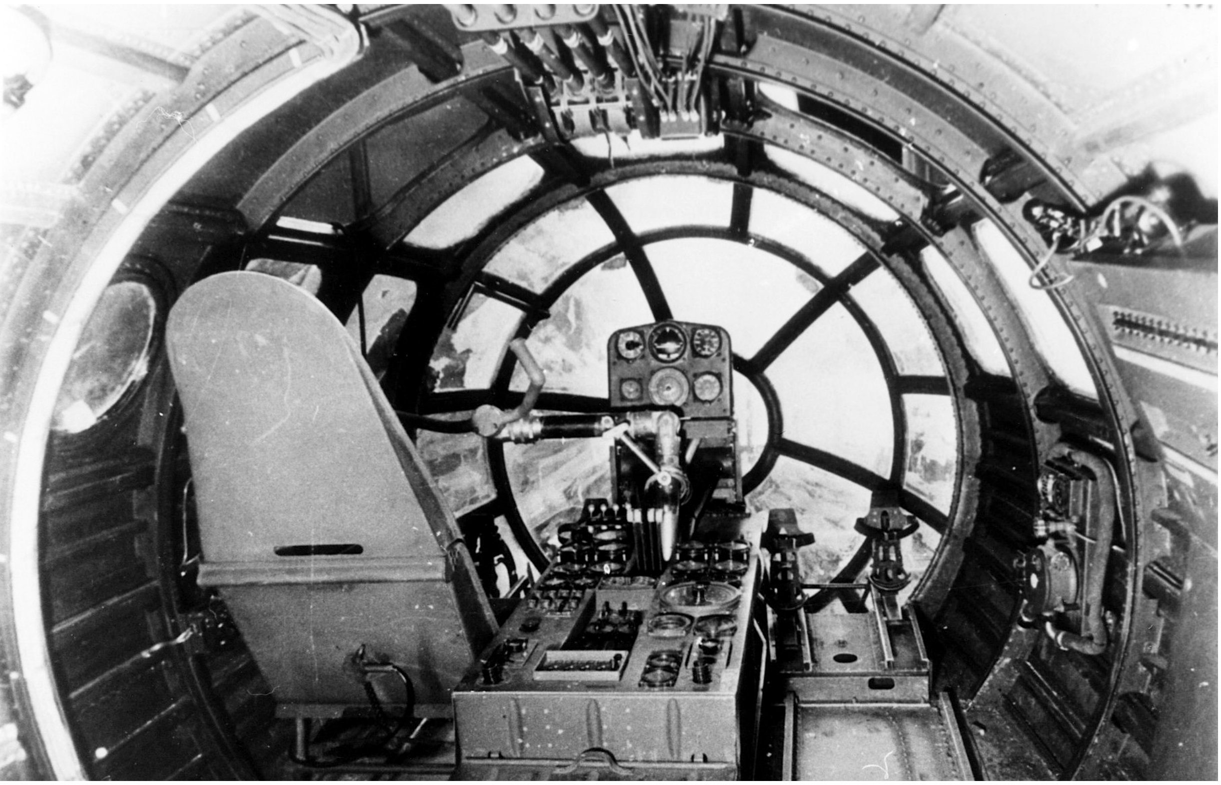
During early flight tests, Karl Baur complained that the glazed cockpit of the Me 264 became, on occasion, unbearably hot – something noticed by others who flew the machine. Here, one of the window panels is open for ventilation. Two of the three nosewheel doors are also visible.

> 'What we have on hand at the moment for long-range reconnaissance are the Ju 290 and the He 177, which can do the job for a while. They will be replaced by the Ta 400. Accordingly, this leaves the Me 264 in a poor position. I flew it recently and I believe it is the right thing to drop it.'

Milch agreed, and advocated assigning the Ju 290 and He 177 for Atlantic reconnaissance in the short term, to be eventually replaced by the Ta 400, with the Me 264 continuing as a development project only. The Me 264 production plans would therefore be cancelled. However, as so often in the history of armament development in the Third Reich, things changed as a direct result of the hand of Hitler.

On 8 July 1943, with German armoured forces heavily engaged in a massive pivotal battle at Kursk on the Eastern Front, Hitler took time away from the worries of the land war to meet once again with Admiral Dönitz at the *Wolfsschanze*. The Admiral presented the latest bleak situation report from his U-boat command. Hitler again spoke of the four or six-engined Me 264, an aircraft whose range of up to 17,000km he envisaged operating not only as a maritime reconnaissance machine but also as a fast bomber. 'These are the machines,' he told Dönitz, 'which shall later cooperate with the submarines.' The *Führer* assured his admiral of his support for the continued production of the Me 264, but only for maritime deployment. He also conveyed this to Messerschmitt at Augsburg. At the same time he dropped his decision to mount bombing attacks on the East Coast of the United States because 'the few aircraft that could get through would only provoke the populace to resistance'. It seems Hitler had at last recognised the stubbornness of both the British and German civilian populations under aerial bombardment.

Curiously, the following day, Milch reversed his earlier decision and

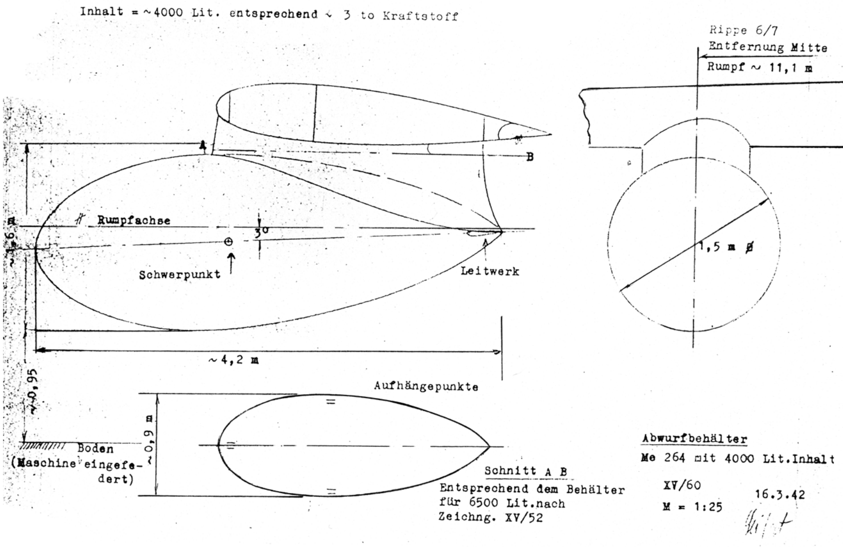


The virtually completed cockpit of the Me 264 V1. The pilot's armoured seat has been installed, but not the co-pilot's. The main instrument panel directly ahead of the seats contains the compass. The central console between the seats holds the secondary compass, auxiliary rocket-booster and propeller controls, oil temperature gauges, FuG 16 radio equipment and indicator lights. Note the oxygen unit on the fuselage wall to the right of the co-pilot's position and the lifting handle on the metal unit immediately behind the control console to allow easy access to wiring.

agreed to continue the construction of the three Me 264 prototypes for the purpose of 'study' only, on the basis that the Weser aircraft factory be included in the production process. Although this latter plan never materialised, from the recorded discussions of a meeting held at the RLM the day after the *Führer* met with Dönitz, there is little doubt that Professor Messerschmitt communicated directly with Hitler about the future development of his four-engined bomber at this time. There is also little doubt that he would have painted an optimistic picture. In an address to the RLM meeting, Oberst von Pasewaldt stated:

> 'I would now like to mention the question of the Me 264, which will probably also interest Oberst Peltz. The matter has been put into a new light following the manufacturer's report to the *Führer*. The situation was that Feldmarschall Milch had taken the decision and reported to Reichsmarschall Göring that the Me 264 prototype was completed and that the Weser firm had capacity. It then appeared that the capacity at Weser was not sufficient because substantial additional requirements had arisen which could not be met. At the same time there arose the urgent need for the Fw 190D, and now the Ta 152, which with regard to the general situation was very awkward for us. The remaining available capacity at Weser was given to Tank.
>
> 'Messerschmitt had made strenuous efforts to be allowed to look for a way to build the aircraft at his own plants. Since then, Messerschmitt has received no satisfactory reply to the question,

> which is to say that the question of where the aircraft is to be built is still up in the air. Since Oberstleutnant Diesing [of the Technical Office] has now said that the Me 264 will be ordered after all, the question of where this aircraft is to be produced is naturally once again of extraordinary importance.'
>
> Diesing responded:
>
> 'After Professor Messerschmitt visited the *Führer*, the Reichsmarschall asked me what the Me 264 was. I described the machine and added that, of the six planned prototypes [it is unclear from where Diesing gained the impression that there were "six planned prototypes"], one was ready as a flying mock-up without armament and equipment and that parts had been taken out or were ready for fitting. Thereupon the Reichsmarschall pointed out that Feldmarschall Milch was of the opinion that this prototype must be properly flight-tested before a decision was taken about a big production run, basically because quite often with Messerschmitt's new aircraft, a weakness appears requiring a big reconstruction job.'


Inhalt = ~4000 Lit. entsprechend ~ 3 to Kraftstoff
Rippe 6/7
Entfernung Mitte
Rumpf ~ 11,1 m
A
B
Rumpfachse
30
Schwerpunkt
Leitwerk
~1,6 m
1,5 m Ø
~4,2 m
Aufhängepunkte
~0,95
~0,9 m
Boden
(Maschine eingefedert)
Schnitt A B
Entsprechend dem Behälter für 6500 Lit.nach Zeichng. XV/52
Abwurfbehälter
Me 264 mit 4000 Lit.Inhalt
XV/60
M = 1:25
16.3.42

A general arrangement drawing from March 1942, bearing Karl Seifert's signature, of a proposed 4,000- or 6,000-litre drop tank for the Me 264. The tanks would have been 4.2m long. Seifert spent more than a year working on the idea, but as far as is known, the tanks were never constructed.

Meanwhile, during the summer of 1943, the *Probü* continued to look at ways to further develop the basic Me 264 design. One option was to replace the existing Jumo 211s on the planned high-altitude bomber variant with supercharged BMW 801E or F engines, capable of a cruising speed of 640km/h at 12,000m. The aircraft was to have had a pressurised cockpit, although the rest of it remained unpressurised, meaning that any armament installations would be remotely controlled from the cockpit. In this configuration, the Me 264 would be able to reach the US comfortably and to strike at targets in the hinterland.

However, to ensure this was indeed the case, Karl Seifert planned to fit the '*Sudeten*' with a pair of large, specially designed underwing drop tanks, each weighing just over five tons when full. The faired tanks would hold either 4,000 or 6,600 litres of C3 fuel in three separate compartments. In the case of the 6,600-litre tank, there was a reserve capacity of 250kg for the *Sonderfernaufklärer* and 470kg for the *Fernaufklärer*. Plans were made to fit a small tail unit to the 4,000-litre tank so as to allow it to 'glide' away safely from the aircraft after release. It was proposed to carry out wind-tunnel testing on models of the wing and tanks to assess the aerodynamics involved and also the centre of gravity. The possibility of emergency release during takeoff when using such large tanks was of great concern to Messerschmitt. As far as is known, there was no further progress made on developing external tanks for the aircraft, with no models being constructed.

As summer progressed to autumn, Messerschmitt also considered adding turbo-jet engines into the mix in the shape of the proposed BMW 018, whose 12-stage axial compressor and three-stage turbine produced a 3,500kg thrust. BMW calculated that fitted in addition to four BMW 801 engines, a pair of BMW 018s would offer a higher operational speed and a faster rate of climb, although there would be higher fuel consumption. Comparison showed that with four BMW 801s, maximum speed would be 600km/h at 10,515m, whereas with only two BMW 018s this would increase to 779km/h at 7,010m. However, if four BMW 801s were supplemented by two BMW 018s, maximum speed would reach 793km/h at 7315m. The rate of climb at sea-level, with an all-up weight of 53,388kg when fitted with four BMW 801s and two BMW 018s was projected at 810m per min.

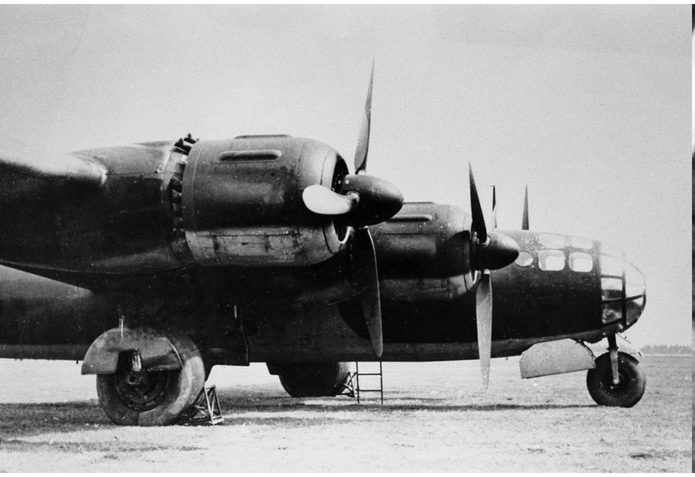
The reality was, however, that at just over 53 tons, the Me 264 was already heavy enough without fitting additional engines. The envisaged weight distribution was as follows:

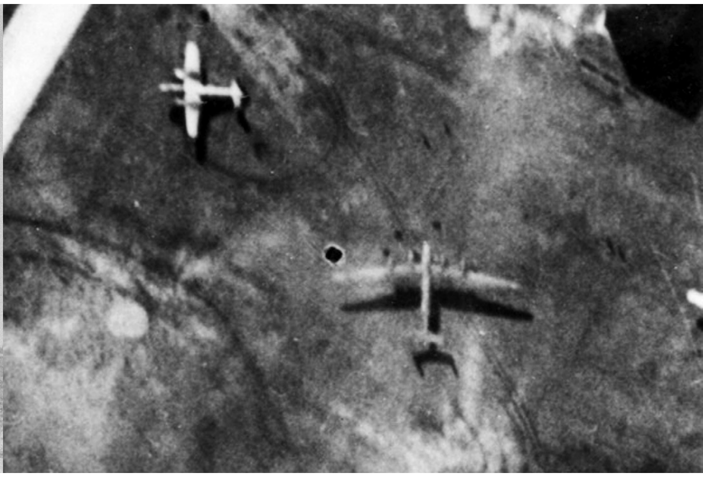
4× BMW 801E engines	26,500kg
2× BMW 018 turbo-jet units	5,000kg
Fuel	20,000kg
Lubricants	2,000kg
Takeoff Weight	53,500kg

Without the turbo-jets engaged, a maximum range of 10,500km could be expected with throttled engines at an altitude of 3,000m and at an average speed of 250km/h. Maximum operational speed with an average load was estimated at 530km/h. Once the turbo-jets had been engaged at full thrust, maximum range would be 4,500km at a speed of 666km/h, including a climb to 12,800m. At a height of 7,000m, maximum speed would be 792km/h.

In late October 1943, a report by BMW Flugmotoren in Munich about such a configuration stated:

> 'This aircraft permits sorties with intermediate high-speed flying, at high-altitudes. This means the aircraft is well-suited for all the missions in which long ranges and long flight durations, combined with temporary high-speed flying to out-distance fighter defence, are required, such as for long-range reconnaissance flights over enemy territory or for supporting U-boat operations over water where there is enemy air superiority. The proposed variant of the Me 264, despite its great range and flight duration, which, as previously mentioned, could be increased by the use of auxiliary tanks, has a considerable speed reserve that decreases the range only if it is utilised for an extended period of time. This high-speed potential enables the aircraft to out-distance enemy fighter defence, especially over water,





> since, even if the enemy has any jet fighters, the ranges of these fighters will be somewhat limited. This means an aircraft of this type has a number of important technical advantages for supporting submarine operations, and can be used for various missions such as ultra-long-range reconnaissance operations, or at lesser ranges, for combat missions.'

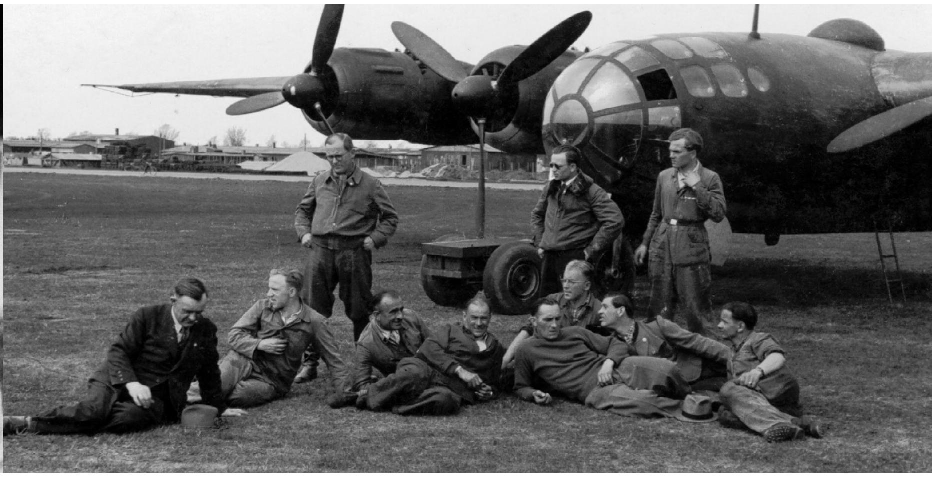
Ultimately, no BMW 018 jet engines were completed before the end of the war. Similarly, further experiments initiated by the *Aerodynamische Versuchsanstalt* (Aerodynamic Test Establishment) at Göttingen to look at using regenerative heat exchangers built by Brown Boveri & Cie in Heidelberg and AEG in Berlin, which fed back to a combustion chamber some of the heat normally wasted in gas turbine exhaust in order to reduce fuel consumption, came to nothing by the cessation of hostilities.

Meanwhile, at Lechfeld, the Me 264 V1 was taken out of service on 11 August 1943 and its Jumo 211J-1 engines removed, the intention being to re-equip the aircraft with BMW 801 radials. However, the *Amerika Bomber* would languish in the hangar, effectively redundant and forgotten, for eight months while the more immediate concerns of military reverses on the battlefield and the air defence of the Reich became the Luftwaffe's priority.

On 18 March 1944, the US Eighth Air Force attacked a snow-covered Lechfeld as part of a concerted strike against a number of airfields in southern Germany. The Me 264 prototype was slightly damaged as a result of the raid, but it was repaired quickly. Then, on 14 April, with four new BMW 801MG/2 TC-1 air-cooled, 14-cylinder radial engines finally fitted, certain technical and design enhancements incorporated and damage repaired from the bombing the previous month, the aircraft emerged from its hangar to recommence its test programme. As a first step, Karl Baur ran up the engines for just over four hours, before embarking on a series of taxiing runs. Unfortunately, during these tests, the brake shoes tore off and the aircraft had to return to the hangar for repairs, making for an inauspicious start.

LEFT The Me 264 V1 rolled out, having had new BMW 801 engines installed. These offered improved performance over the Jumo 211s, higher altitude capability and were seen as a probable powerplant for the proposed six-engined Me 264.

ABOVE Nowhere to hide. On 28 March 1944, an RAF Mosquito PR IX of No. 540 Sqn, flown by Flt Lt A. T. Leaning, with his navigator, Flg Off S. G. Dale, managed to capture the Me 264 on film as it overflew Lechfeld. The RAF's Central Interpretation Unit at Medmenham gave the *Amerika Bomber* the identifier 'Lechfeld 127'.



ABOVE Oberstleutnant Siegfried Knemeyer, the head of development at the RLM, visited Lechfeld in April 1944 to inspect the Me 264 development programme and to test-fly the V1 prototype, with which he was impressed. A skilled pilot and engineer with a considerable knowledge of electronics, he dubbed the aircraft '*das Schiff*' ('the Ship').

RIGHT Flugkapitän *Dipl.-Ing.* Karl Baur (standing at left) and *Dipl.-Ing.* Gerhard Caroli (standing centre), the two leading figures of the Me 264 flight-test programme, take a break with members of the development team at Lechfeld or Memmingen in 1944. The aircraft has been fitted with BMW 801 engines and also carries a mock-up of a remotely controlled MG 131Z gun turret.

Following repairs, the aircraft was again declared fit for testing, and on 16 April it made no fewer than six flights. Taking to the air (for its 37th flight) for the first time in eight months, the aeroplane flew for 24 minutes. Baur reported no major problems, but he did discover that the engine and propeller synchronisation was out and that fuel pressure was too great. In general terms, however, the aircraft performed well and Baur opined that the improvement offered to the machine by the fitting of the BMW engines was 'magnificent, with a much better performance on takeoff'.

However, as a result of increased Allied bombing of the Augsburg and Lechfeld areas, it was decided to move the Me 264 further south to the large airfield at Memmingen. It flew the short distance to its new base in 12 minutes, where its emergency skid was torn away as a result of touching down too heavily during landing. The aircraft then returned to Lechfeld, where presumably the skid mount was repaired, before Flugbaumeister Scheibe, who was making an inspection visit to the airfield, took the controls for a 35-minute flight. Having deliberately stopped two engines in flight, Scheibe considered the aircraft to be good technically, and reported that since the rudders had been fitted with balances, any excessive vibrations, which had previously plagued the aircraft had almost ceased.

Accompanying Scheibe to Lechfeld was Oberstleutnant Siegfried Knemeyer, the new head of the RLM development group. As an engineer with a considerable knowledge of electronics and as an extremely skilled operational pilot who had flown with the *Aufklärungsgruppe Ob.d.L.* under Rowehl, his involvement in the Me 264 programme would be greatly valued. Knemeyer, who dubbed the Me 264 '*das Schiff*' ('the ship'), piloted the aircraft for 18 minutes – enough time for him to be impressed by the aircraft's qualities, although he did complain about poor visibility from the cockpit due to reflection, which he believed could impede results during a combat mission. Unlike Scheibe, he noted the vibrations in the airframe as the main problem to be addressed, as well as the need for a Patin autopilot system for long-range missions and an emergency compass, which, although fitted, did not yet function. It was also Knemeyer's view that any questions concerning the functioning of the rudder could easily be attended to throughout the course of further testing.

Following its final flight on 14 April, the Me 264 V1 had amassed a total of 32hrs 50min flying time since its maiden flight at Augsburg in December 1942.

After their flights, Knemeyer and Scheibe journeyed to Oberammergau, in southern Bavaria – the new location to which the Messerschmitt *Probüo* had moved to escape Allied bombing. There, they met with Professor Messerschmitt and members of the project team to discuss the Me 264. Knemeyer had been impressed by the way in which Messerschmitt had engineered the aircraft, and even went as far as to comment that he thought it 'could be bought straight off the peg'. He and Scheibe were in broad agreement that the programme could be salvaged and continued. Although Knemeyer informed the Messerschmitt team that there were a number of defects that still plagued the aircraft, equally he recognised they were largely due to a lack of production capacity and were solvable. He also expressed satisfaction with the overall layout of the aircraft, particularly the armament:

> 'The weapons installations are very adequate based on existing requirements and should present no problems. The aircraft's internal dimensions make it very suitable for carrying ordnance. The only complaint about the design is the long-known issue of visibility.'

The minutes of the Oberammergau meeting recorded that it was felt that 'the Me 264 must serve as the basis for future large aircraft development'. As a caveat to this, however, Knemeyer added that whichever company was eventually selected by the RLM to continue with the development of the aircraft should be the one to continue testing the V1. 'For Messerschmitt A.G.,' the minutes recorded, 'this means that it must continue the Me 264 testing until the RLM has made its decision.'

Flight-testing resumed on 15 April. Generally, things went well, although from an aerodynamic point of view it was noticed that the tail felt too heavy during flight. An emergency tail wheel had also been fitted, and it was tested for flutter. On 26 April Hauptmann Wolfgang Nebel, previously of 2./*Versuchsverband Ob.d.L* but now working for Pasewaldt of the RLM, visited Memmingen to fly the Me 264 in order to assess the aircraft as a long-range reconnaissance machine. The previous January, Nebel had held discussions with Konrad and Seifert about plans to build further Me 264 prototypes. Nebel flew the '*Sudeten*' for 19 minutes on its 43rd test flight, during which it was missing its emergency tailwheel, which had been ripped off on an earlier flight. The next day, flying at a height of 450m, the Me 264 reached a speed of 490km/h with its engines at their maximum operational setting and 470km/h flying at maximum continuous power.

Four flight-tests totalling just over one-and-a-half hours, and conducted between 28 April and 2 May, were aimed at solving the vibration problem. In order to avoid the construction of an entirely new tail unit, continued attempts were made to bring the vibrations under control by fitting

Oberleutnant Wolfgang Nebel (centre) had flown a number of agent-dropping missions over the Middle East, before becoming involved in long-range aircraft development for the RLM. In late 1943 he was assigned to liaise with Messerschmitt A.G. on the development of the Me 264, and would later assume command of *Sonderkommando* Nebel, which was charged with deciding exactly how best to deploy the aircraft.

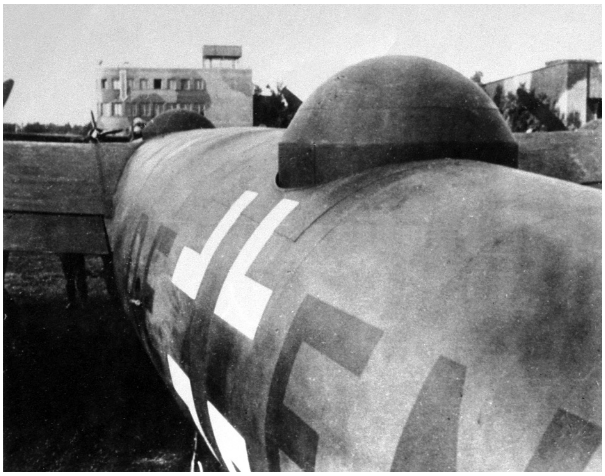
balance weights. The scheduled performance trials were – once again – delayed. Unfortunately, these efforts proved in vain, and the vibrations persisted, despite the weights. On 3 May, Nebel made three further flights, but still the problem persisted. It now seemed as if a new tail unit was inevitable. Messerschmitt anticipated that wind tunnel tests would provide the required design data by July 1944.

Testing does not seem to have recommenced until 5 June 1944, when Baur once more climbed up the short access ladder, forward of the bomb-bay, into the fuselage of the Me 264 and made his way to the glazed cockpit section. After a trouble-free takeoff, he spent 40 minutes in the air, at which point the assimilated operational flight at 6,000m had to be interrupted because lateral control was affected as a result of one fuel tank emptying faster than its neighbour (tank Nos 4 and 5), and there were problems with at least one engine when the propellers did not reach full revolution.

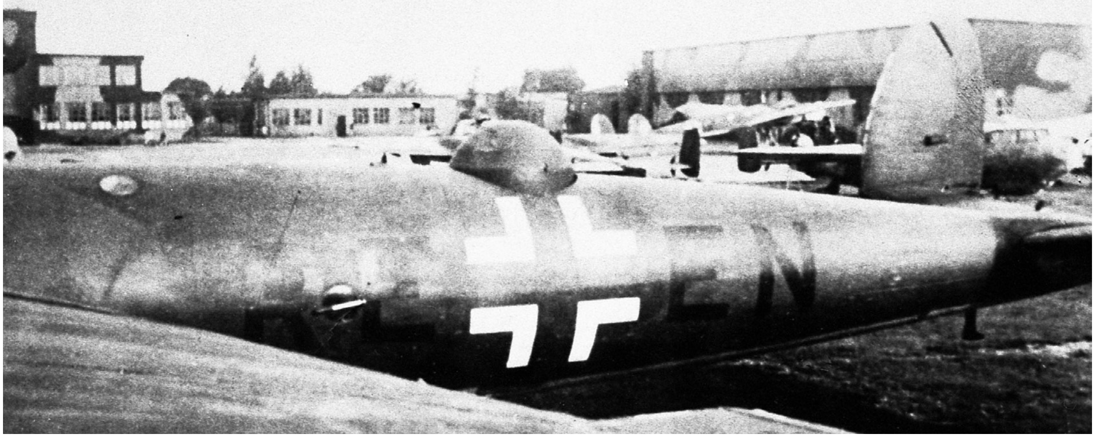
When Baur landed, he also noted that he had experienced repeated malfunctions with the Patin auto-pilot servos, and that this would need urgent improvement. Furthermore, one propeller blade on the left outer engine was badly damaged and had to be replaced, having been struck by a stone. The left wing had a hole in it, possibly from earlier bomb damage following an enemy attack on the airfield. The brake cylinder on the left undercarriage was leaking and the internal ballast in the fuselage had to be adjusted. The rebuilding of the counterbalance on the rudder decreased deflection somewhat, but Baur recommended that an enlargement of the fin was still necessary.

On 24 June the V1 made its 51st test flight for 24 minutes without any perceivable problems. Two days later, Baur took to the air to undertake a climb trial flight at operational settings. The aircraft was airborne for 51 minutes, but the flight had to be cut short when the fuel pressure of both inner engines fell to zero. After checking the fuel pumps, several defects were found. Additionally, the Patin auto-pilot, radio and electrics system all required repairs. From then until 12 July, the flight-test programme was put on hold by unseasonably bad weather conditions and a range of minor faults. While the engineers waited for the weather to improve, the faults were rectified and the time used to fit new fuel pumps and to repair the auto-pilot system.

But from Rechlin on 18 July came a stinging indictment from Oberst Petersen of the *Kommando der Erprobungsstellen*, which contradicted the opinion of Knemeyer. Following extensive investigation, Petersen believed that the Me 264 would not be suitable for operations over the Atlantic since the combined weight of armament, armour, payload and fuel would result in an excessive takeoff weight and wing load. Furthermore, neither the strength of the undercarriage designs



A view looking from the rear of the left side of the Me 264's fuselage towards the trailing edge of the left wing. Note how the *Zwilling* turret mock-up has been embedded into the existing turret port.



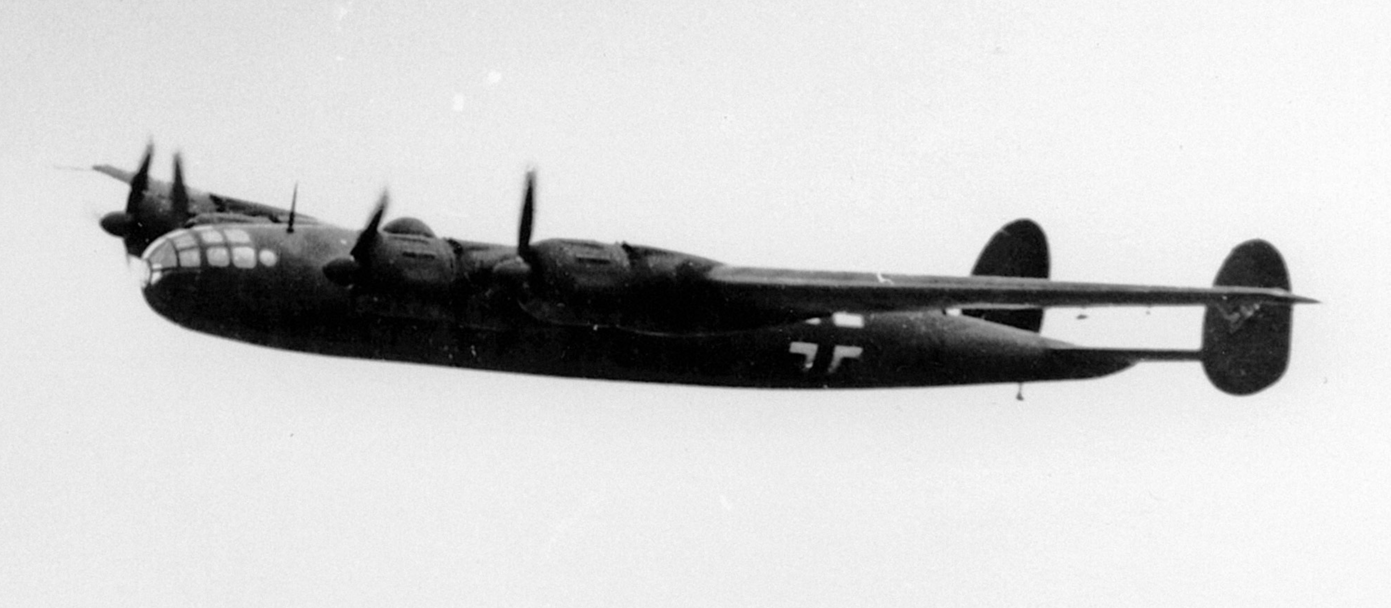
The rear fuselage of the Me 264 V1 RE+EN viewed from the left wing, as seen on a crowded airfield – probably Lechfeld – in the summer of 1943. A dummy 'turret' has been installed, representing a remotely controlled MG 131Z gun barbette.

nor the existing armament were deemed sufficient. In the case of the latter, it was proposed that turrets should be fitted with 30mm guns. Petersen wrote:

> 'The aircraft in its whole conception is not useful on the grounds of its excessive wing loading, the complicated nature of its undercarriage, the exceptional length of runway required for takeoff and the need for rocket boosters to assist in the endeavour, and the poor defensive armament. The basic idea of developing and then building the machine in a purpose-built fighter factory lacking any heavy aircraft experience is flawed, and in our opinion it cannot be produced without prejudice to the urgent Me 262 fighter production at Messerschmitt. The promised dates seem impossible to keep as still no kind of test data is available.'

That very morning events overtook Petersen when a small force of heavy bombers from the USAAF's Fifteenth Air Force, operating from bases in Italy, braved bad weather and Luftwaffe fighter attacks to make it through to Memmingen, where they dropped fragmentation and incendiary bombs across the target, hitting several of the airfield's installations. Eighty per cent of its buildings were hit in the devastating attack – three hangars were destroyed and another two heavily damaged, as were the workshop, mess hall and accommodation buildings. Some 170 personnel were killed and another 140 wounded. An estimated 35 aircraft were destroyed or damaged on the ground, including the Messerschmitt Me 264 V1.

As Karl Baur made his way into the smouldering remains of the '*Sudeten*'s' hangar after the raid, he realised that the extent of the damage inflicted to the airframe was too severe to allow repair, and that having flown only 38hrs 22min in 52 flights, the aircraft would have to be written off. For Professor Messerschmitt, the loss of the only fully-assembled Me 264 prototype must have been a blow, signalling the end of his dreams of building a long-range aircraft. Yet, as with so many other projects developed in the Third Reich in 1944, despite the worsening war situation, the physical destruction of the V1 did not signal the end of the Me 264 programme.



CHAPTER FIVE

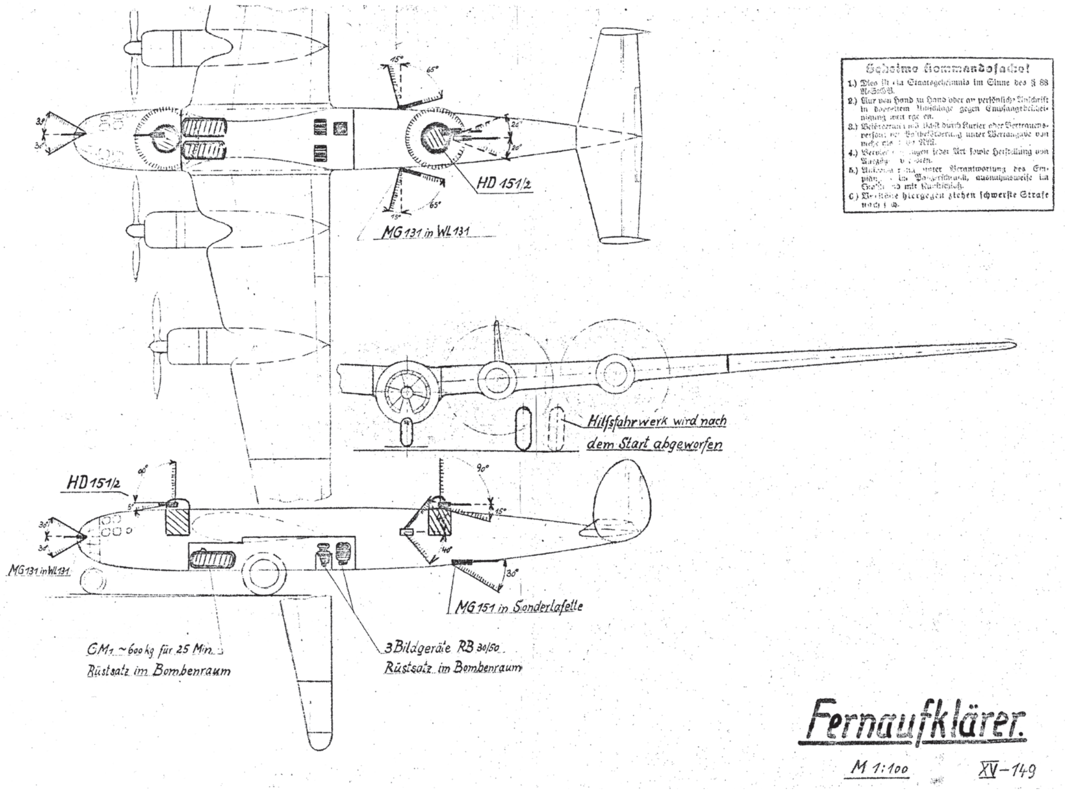
TO THE ELEVENTH HOUR

The Me 264 V1 in flight, powered by BMW 801 engines and fitted with mock-up gun turrets.

Even as Baur and Caroli had pushed ahead dutifully with the Me 264 flight-test programme in late 1943, the notion of an *Amerika Bomber* continued to both tempt those within the corridors of power in the RLM and serve as a source of continuing heated debate and discord. In mid-October a major conference took place in Berlin chaired by Göring, with Messerschmitt, Milch, Friebel, Petersen and Peltz all present. In the tense atmosphere that prevailed during this gathering, it was reported that Focke-Wulf's Ta 400 was slipping behind schedule and meaningful progress was looking ever more unlikely. At this, Messerschmitt unhesitatingly used the moment to promote the Me 264, stating his belief that Focke-Wulf would find it difficult to produce an aircraft with a range of just 10,000km, whereas the Me 264 could soon be available for reconnaissance missions of up to 18,000km.

According to Messerschmitt, the components for the first five prototypes were completed, but he lacked the necessary space and facilities in which to construct them. In order to make space available for production of the Me 410 heavy fighter as ordered by the RLM and required by the Luftwaffe for the defence of the Reich, all the Me 264 final assembly jigs had been placed in storage.

With more and more Allied bombs falling on Germany, and the ensuing demand for defence fighters, Göring knew that an entire production facility for a long-range bomber – including the necessary workforce – was a pipedream, irrespective of whether it was to be for the Ta 400, Ju 390 or Me 264. In any case, the Focke-Wulf project was out of the question because its development in France was way behind schedule. But Messerschmitt would not give up. He explained


Geheime Kommandoſache!
1.) Dies iſt ein Staatsgeheimnis im Sinne des § 88 RStGB.
2.) Nur von Hand zu Hand oder an perſönliche Anſchrift in doppeltem [illegible] gegen Empfangsbeſcheinigung [illegible]
3.) [illegible] durch Kurier oder Vertrauensperſon [illegible] unter Wertangabe von mehr als [illegible] RM.
4.) [illegible] jeder Art ſowie Herſtellung von [illegible]
5.) [illegible] unter Verantwortung des Empfängers [illegible] ausnahmsweiſe im [illegible] mit [illegible]
6.) [illegible] hiergegen ziehen ſchwerſte Strafe nach ſich.
35°
30°
15°
65°
25°
20°
HD 151/2
MG 131 in WL 131
Hilfsfahrwerk wird nach dem Start abgeworfen
HD 151/2
90°
15°
40°
30°
MG 131 in WL 131
MG 151 in Sonderlafette
GM1 ~600 kg für 25 Min.
Rüstsatz im Bombenraum
3 Bildgeräte RB 30/50
Rüstsatz im Bombenraum
Fernaufklärer.
M 1:100
XV–149

A three-view plan of the envisaged Me 264 *'Fernaufklärer'* (long-range reconnaissance aircraft), also from July 1943. The aircraft has jettisonable mainwheels, three Rb 30/50 cameras installed in the bomb-bay and GM1 nitrous-oxide boost to enhance high-altitude performance.

that the Ju 390, favoured by the Reichsmarschall, could never – at least in terms of performance – become the ideal machine for long-range operations over the Atlantic.

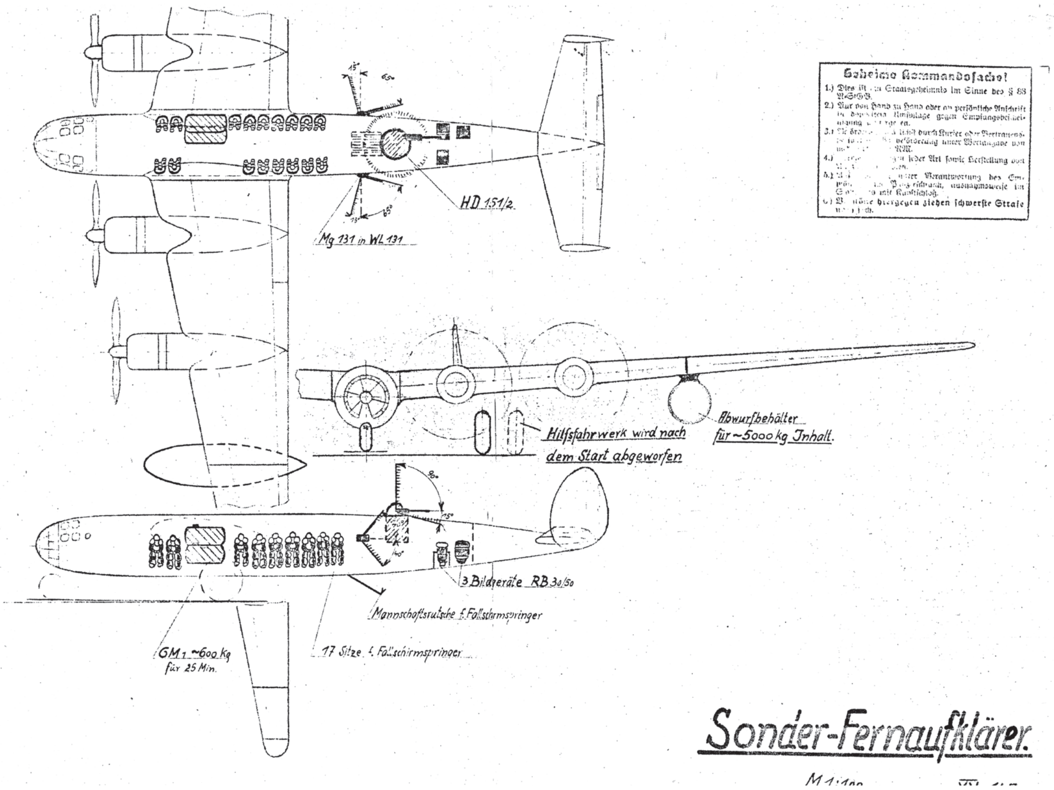
Not surprisingly, with Milch and Messerschmitt facing each other across the table, the meeting soon became confrontational. It was announced that in the opinion of the aircraft designer Ernst Heinkel, only the Ta 400 and the reworked He 177 would be capable of effectively undertaking long-range bombing, anti-shipping or reconnaissance missions. Heinkel considered that the Me 264 was purely 'a record-breaking aircraft that does not come up to the service requirements for operations in large numbers'.

When Göring asked Oberst Petersen what the shortest distance was from German-held territory to New York, Petersen replied that from Brest it was 5,400km. 'If only we could reach it!' the Reichsmarschall declared, 'With just one or two bombs we could force them to blackout!'

Eventually, however, Milch, quite rationally, proposed stopping work on the Me 264 altogether in order to put effort into the Me 262, to which Göring, rationally, agreed. The following day, production of the Ta 400 was also cancelled, primarily because output was required for production of Fw 190D-9 and Ta 152 fighters.

On 29 October 1943 Milch angrily advised Messerschmitt that:

> 'The Me 264 will not win the war but the Me 262 can. We must therefore concentrate all our efforts on this machine. When Messerschmitt has completed this order and has no other important tasks to deal with, I would then like to solve the question

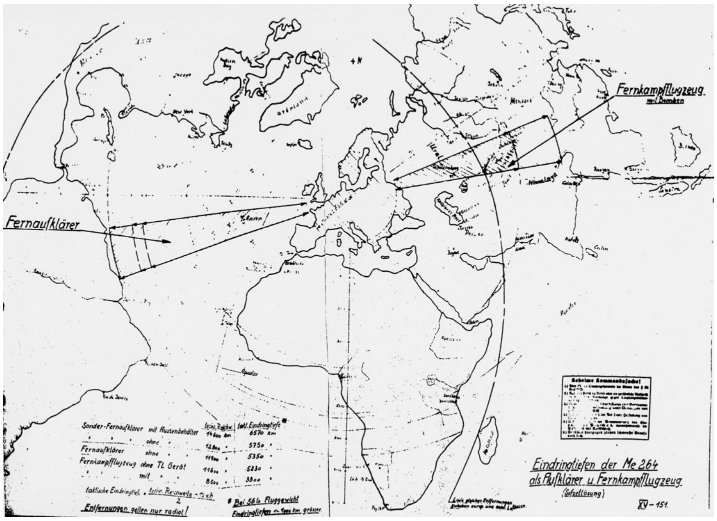

Geheime Kommandosache!
15°
65°
HD 151/2
Mg 131 in WL 131
Hilfsfahrwerk wird nach dem Start abgeworfen
Abwurfbehälter für ~5000 kg Inhalt.
90°
75°
40°
3 Bildgeräte RB 30/50
Mannschaftsrutsche f. Fallschirmspringer
GM 1 ~600 kg für 25 Min.
17 Sitze f. Fallschirmspringer
Sonder-Fernaufklärer.

A three-view plan of the envisaged Me 264 *'Sonder-Fernaufklärer'* ('special long-range reconnaissance aircraft') intended to carry 17 paratroops. The camera equipment has been relocated to the rear of the fuselage.

of the Me 264 once and for all. What gain should I get from a machine with a promised range of 20,000km when it breaks to pieces during takeoff?'

The logical decision to focus effort on Messerschmitt's other innovative design, namely the world's first jet interceptor, in order to have a weapon with which to strike back at the Allied bombers (a pressing need), as well as the fact that the only Me 264 prototype was grounded, should have settled things once and for all. But this was not to be.

In late 1943, the Messerschmitt *Probü* continued to work on enhanced designs for a long-range bomber and long-range and ultra long-range (13,600km) reconnaissance machines. Furthermore, work had started on the second and third prototypes, the V2 and V3, and by January 1944 this was at a quite advanced stage, in readiness for fitting with BMW jet engines – whenever they would be ready. However, such plans were quickly shelved, although even then Messerschmitt had been requested by the RLM to conduct a feasibility study into installing BMW jet engines into the planned V4 and V5. Nevertheless, at the meeting between Hauptmann Nebel of the RLM and members of the *Probü* on 25 January, it was agreed hangar space would be made available at Augsburg for the construction of the V2 and V3, but, in view of the capacity required, not, for the foreseeable future, for the V4 and V5. In terms of design staff, there would be a requirement for 50 experienced designers, project engineers and managerial staff, but in reality this was an unattainable goal – such resources just did not exist.


Fernaufklärer
Fernkampfflugzeug. mit Bomben
Sonder-Fernaufklärer mit Aussenbehälter 14600 km 6570 km
ohne 12800 5750
Fernaufklärer ohne 11900 5350
Fernkampfflugzeug ohne TL Gerät 11600 5230
mit 8500 3800
takt. Reichw.
takt. Eindringtiefe
taktische Eindringtiefe = techn. Reichweite – 15% h / 2
Entfernungen gelten nur radial!
Bei 56 to Fluggewicht Eindringtiefen ~ 1000 km grösser
Linie gleicher Entfernungen zwischen europ. und amer. Luftbasen
Geheime Kommandosache!
Eindringtiefen der Me 264 als Aufklärer u. Fernkampfflugzeug
(Sofortlösung)
XV – 151.

A sketch map of the world showing the depth of penetration for the Me 264 long-range bomber and reconnaissance variants. In the case of the former, the map shows a range path to the US East Coast, passing over the Azores, from the west coast of France. To the east, the range path of the reconnaissance machine stretches from the Soviet Union, across the Urals to the Himalayas.

On 23 May 1944, Göring chaired a high-level aircraft production conference attended by the Reichsminister for Armaments and War Production, Albert Speer, as well as Milch, General der Flieger Günther Korten, the Luftwaffe Chief of General Staff, Petersen and Knemeyer. Göring asked:

> 'What can be done to make possible reconnaissance at extreme ranges? What type of aircraft do I have for this purpose? There are the Ju 290 and Ju 390, types which have a colossal fuel consumption, and now – keep a firm hold on yourselves and don't fall under the table – the Me 264! This aircraft, which need be produced only in small numbers and can be further improved, would give us a much faster aircraft than the 290 and would make reconnaissance at extreme ranges possible. I would set a definite limit of one *Gruppe*. This unit would be allotted special, long-range reconnaissance duties and we must consider the possibilities if the Me 264 were especially adapted for this work. If this were done we could exclude all the types which devour so much fuel.'

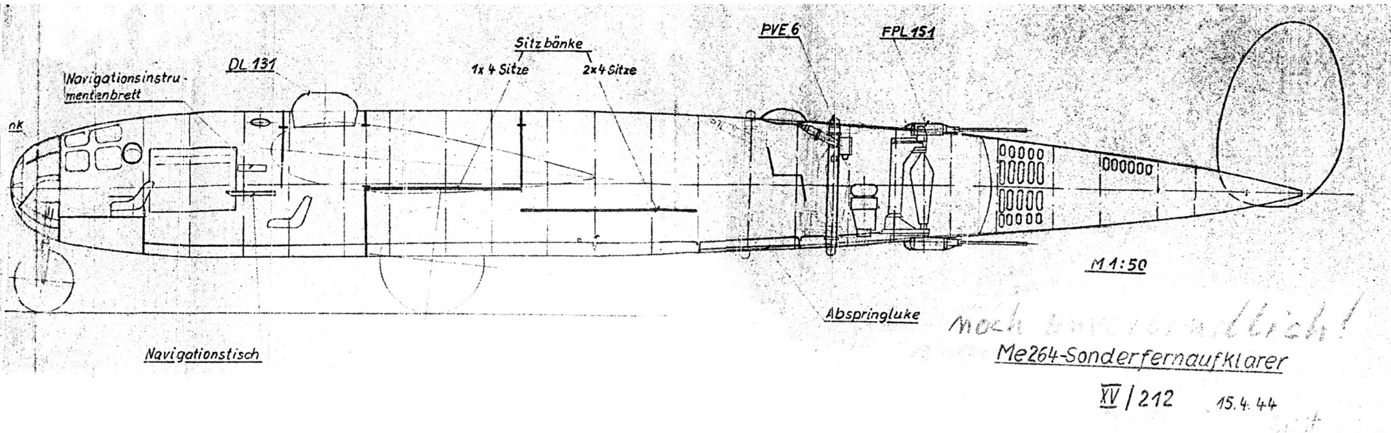
The following month, the bluntly spoken engineer and production specialist, Hauptdienstleiter *Dipl.-Ing*. Karl-Otto Saur, told a production conference that the time for 'botches and bungles' was over. It was a moment for 'revolutionary inventions'. With this in mind, Saur expressed his whole-hearted support for the continued development of the multi-purpose Me 264. 'I am in favour of going all out with the Me 264. This Me 264, with its combination of piston engines and turbo-jets, offers us prospects of revolutionary importance. Its load and range make it seem adapted for all purposes, even in relatively small numbers.' But less than a month later, on 6 July, Saur reluctantly confessed to colleagues, 'The Me 264 will not appear for a very long time. We are attempting to bring it forward by one year. Even then output will be no more than three, four or five at the most, and the aircraft will have to be built by hand so as not to tie down the whole of the plant to this type.'

Before July was out, however, in yet another contradiction in the story of the aircraft, on the 26th the establishment of *'Sonderkommando Nebel'* ('Special Detachment Nebel') was authorised under the command of Hauptmann Nebel. The unit was set up specifically to oversee the further development of the Me 264 V2 and V3 prototypes and to assess the best use for them. It was comprised of engineers and personnel drawn from the staffs of the *General der Aufklärungsflieger*, with its headquarters being in Offingen, the location of the embryonic V2 and V3 airframes. The actual accomplishments of the *Kommando* remain unclear, but no sooner had it been established than it was given fresh orders by OKL. It was reassigned to concentrate on the 'technical problems associated with new aircraft' – this meant not just the Me 264, but other new types such as the Do 335 and the planned Do 635.

However, as late as August 1944, Hitler still harboured thoughts of conducting air operations against the United States. On the 5th, he demanded the 'fastest possible production' of further Me 264s. The idea lingered in his mind for at least another fortnight. On the 21st, during the morning situation conference, the subject of a long-range bombing mission against New York cropped up once again. Generalleutnant Kreipe, the new Luftwaffe Chief of Staff, recorded in his diary, 'Short discussion over the operation against New York with long-range bomber/seaplane. The Navy cannot supply a U-boat for supply [of fuel] and collection [pick-up of crew]. Operation off.' Kreipe subsequently discussed the operation with Admiral Fricke until late that afternoon and then spent further time on the telephone that evening with Admiral Meisel, the Chief of the naval war staff, about the 'operation against the USA'. Meanwhile, Hitler, who had more pressing war matters to deal with, eventually forgot about the scheme.

On 30 August, Albert Speer's staff ordered Hauptmann Nebel to arrange to 'build the Me 264 with utmost precipitation and by utilising all readily active industrial forces'. This, it seems, was an indirect reference to the Henschel aircraft firm at Schönefeld, which was brought in to build the wing centre sections for the Me 264 for delivery by late November 1944. By the end of October, however, the terms of the order had changed seven times, and Henschel, probably exasperated, ceased its involvement at the end of that month.

A profile drawing from 15 April 1944 of the proposed Me 264 *'Sonderfernaufklärer'* showing gun and camera installations and seating for 12 'paratroops'.



By early September 1944, Generalmajor von Barsewisch and Admiral Dönitz were forced to accept that with the imminent loss of vital airfields in France and the increasing superiority of the Allied air forces, the ability to conduct any form of reconnaissance cooperation between the Me 264 and the U-boat fleet was virtually impossible. On the 7th, a last-ditch meeting was held in Berlin to discuss in what way – if at all – anything could be done with the '*Sudeten*' project on a practical level. In attendance from the Kriegsmarine were Dönitz and members of the Staff of the *Befehlshaber der U-Boote* (Commander-in-Chief of Submarines), while from the Luftwaffe there was von Barsewisch and members of his staff, together with Major Hermann Fischer, the commander of FAGr 5, who had been asked to attend because of his recent practical experience in flying long-range maritime reconnaissance operations over the Atlantic with the Ju 290.

The general attitude towards the Me 264 was lukewarm. There was little enthusiasm for an aircraft that would be expensive to produce and be available only in very small numbers by the end of the year, and which, with its relatively weak defensive armament, would be hard-pressed to defend itself against the increased numbers of Allied day and nightfighters operating over France, Germany and the Bay of Biscay. That day, the war diary of the *Seekriegsleitung* (Naval Warfare Command) noted, 'The Me 264 is too slow and, therefore, unusable for long-distance maritime reconnaissance. It should be replaced by the Do 335.'

Paradoxically, just three days later at another meeting between the staffs of von Barsewisch and Dönitz, it was concluded that limited numbers of Me 264s *could* still be operated from bases in Norway, since, with increased armament, it was felt the Messerschmitt would be able to fly with reasonable safety over England, France or the western Mediterranean. This must have served to keep the flame of hope flickering for the Me 264 programme. On 5 September, Generalstabs-Ingenieur *Dipl.-Ing*. Roluf Lucht was appointed chairman of the Emergency Aircraft Commission. Among his immediate tasks was to ensure the continuation of work on the Me 264 – now a priority by urgent order of the *Führer*. On the 18th, Speer once more lent his weight to the Me 264 programme by announcing that construction would begin shortly.

In the week that followed, however, it would be Admiral Dönitz who, diplomatically, persuaded Hitler to cancel plans for the aircraft. On 23 September 1944, orders were issued from the *Führer*'s headquarters that all further work on the Me 264 was to be cancelled. This was followed just under a month later, on 18 October, by a stark order from Göring stating finally and irrevocably, 'Production of the Me 264 is herewith cancelled'.

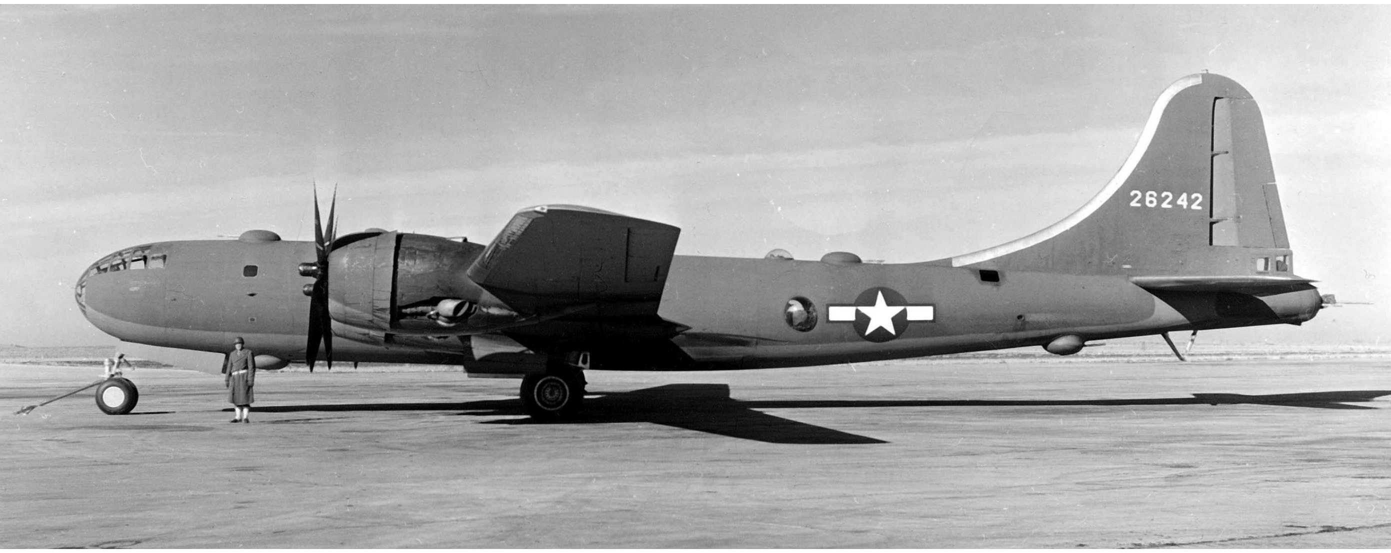
CHAPTER SIX

CONCLUSION

Well into late 1944, Hitler and senior German production chiefs were attracted to the notion of using the enhanced Me 264 – seen here with BMW 801 engines – against targets in the USA, but Germany's reversing fortunes of war prevented any such deployment taking place.

Germany's attempts to build a multi-engined, long-range, strategic bomber ultimately withered because of its war aims and reverses. Despite the fact that in 1942 the Germans began to re-examine air strategy, or at least to seek the optimum aircraft and methods of waging a strategic bomber campaign, the immediate demands of the individual war fronts meant that the technological requirements for such an aircraft were hard to meet. From late 1943, Germany was under pressure to bolster its fighter defence system in the face of the gathering Allied air offensive against the Reich. Materiel and human resources became increasingly stretched and, in any case, had to be deployed in areas of immediate priority. Fighter production was vital because the bombing offensive threatened the Germans' chances of building anything. As has been shown, the need – and demand – was to attain air superiority with aircraft such as the Me 262.

Why then did the RLM or the Luftwaffe not pursue Messerschmitt's P 1061 or Me 264 designs between 1938 and 1941? While Luftwaffe leaders are blamed for their blindness when it came to the concept of a 'strategic' or 'long-range' bomber, it should be borne in mind that for the Luftwaffe to have cut back on fighter and medium bomber production from 1942 onwards in favour of large and expensive heavy bombers would perhaps have been even more disastrous than the decision to place all emphasis on a medium bomber force. Furthermore, Germany's efforts to build 'heavier' bombers – such as the He 177 – were plagued by mechanical and technical problems, as well as a lack of engines. This is illustrated by the fact that the Luftwaffe dropped less than four per cent (74,172 tons) of the bomb tonnage that the Allies dropped on Germany (1,996,036 tons) between 1940 and 1945.



With its formidable industrial capability, the USA was able to develop the long-range bomber Germany could not in the form of the B-29 Superfortress. This is B-29-1-BW 42-6242, which was the 29th production Superfortress from the Boeing factory at Wichita. Seen here prior to delivery, the aeroplane – christened *Esso Express* – had its four twin-gun fuselage turrets removed, armour protection stripped out and other equipment removed to allow it to be used as a tanker to fly fuel over 'the Hump' from India to China. The aircraft flew 30 such missions before returning to the USA in November 1944 bearing camel mission symbols on the nose.

By comparison, in the United States, as early as March 1938, as Willy Messerschmitt worked on his P 1062, the USAAC requested from industry proposals for a new strategic bomber with a pressurised cabin so that it could fly higher than the B-17, and much faster. The task fell to Boeing, and in January 1939 a costly nationwide production programme was planned for what was seen as the most advanced aircraft ever contemplated precisely at a time when there was no money. The aircraft would emerge as the four-engined B-29 Superfortress when it first flew on 21 September 1942.

For Germany to have created a heavy bomber fleet would have meant the retraining of pilots and aircrew and the modernisation, re-equipment and expansion of several airfields (even the testing conditions for the Me 264 at Augsburg proved unsuitable). By the mid-war period, however, a drain on manpower and operating conditions made this increasingly difficult, and such airfields would simply have become targets for Allied bombers.

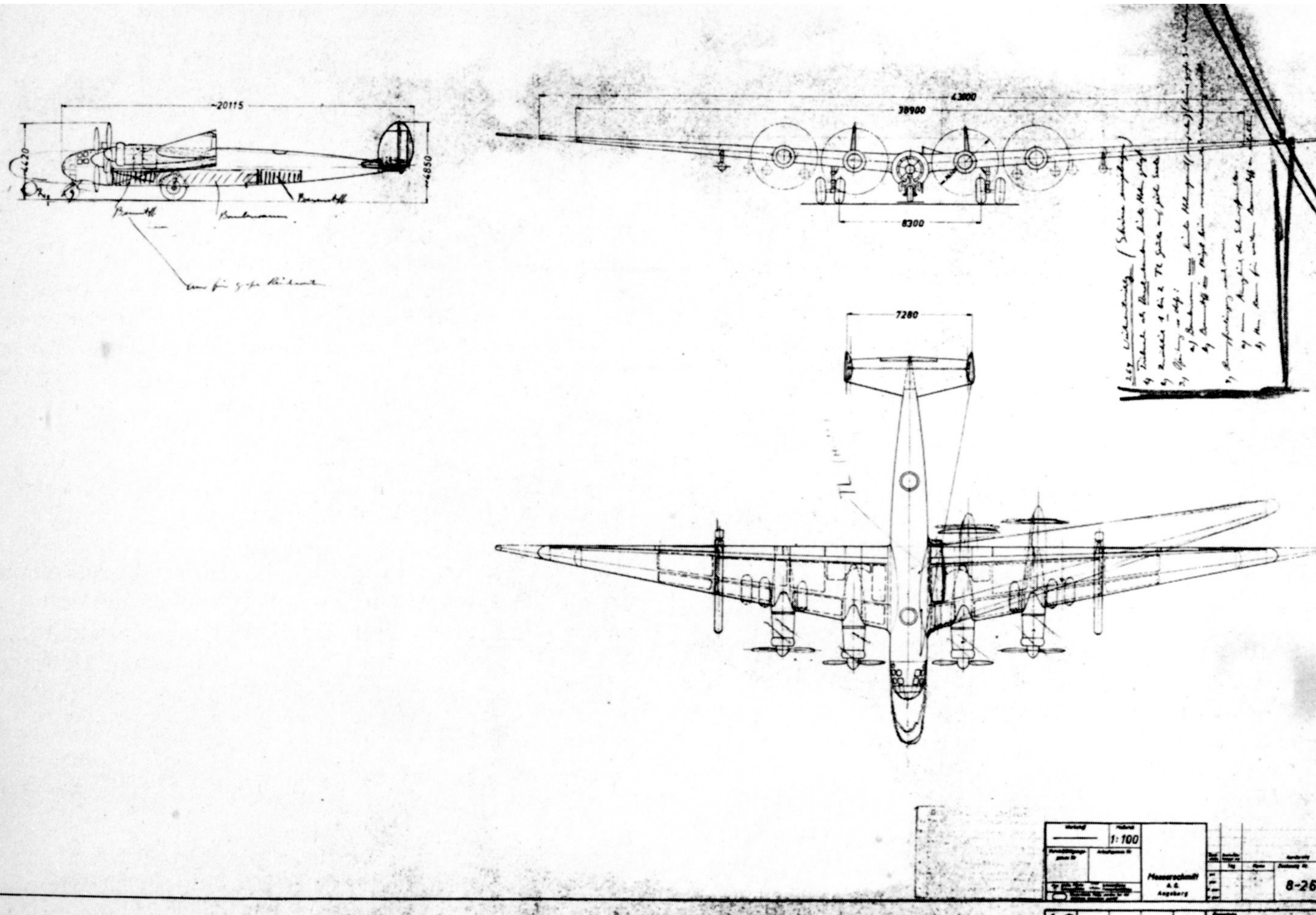
Conversely, B-29 Superfortresses started to arrive in India in early April 1944 at a time when the one and only Me 264 was undergoing flight-testing. B-29s began operations against the Japanese home islands in June. Powered by four 2,200hp Wright Duplex Cyclone R-3350-23 18-cylinder radial engines, the B-29 was impressive from nose to tail. It boasted a pressurised compartment for its crew of ten or eleven, a tunnel to a second pressure cabin in the rear fuselage, an all-glazed nose similar to the Me 264, with instrument panels on each side for the two pilots, five powered turrets driven by gunners who could transfer control between one another and vast forward and rear bomb-bays from which ordnance was dropped sequentially to maintain centre of gravity. With 4,540kg of bombs, the B-29 had a range of 5,230km.

Japan did show interest in the Me 264, and throughout 1943 and early 1944 'a lively interchange of questions and answers' took place between the RLM and the Japanese Army Air Force. Reports from the

Japanese military attaché in Berlin included detailed information on the Me 264's capabilities, construction and performance. The aircraft was at one time suggested for use in flights between Europe and Asia. In August 1943, Tokyo informed Berlin that if the Germans thought the Me 264 could bomb the American mainland, all possible Japanese military personnel and aid would be given to its development. Two months later, the Japanese attaché advised Tokyo that it would not be advisable to renew requests for the Me 264 since Messerschmitt was struggling to satisfy the more immediate needs of the Luftwaffe.

Information on the aircraft continued to be sent to Tokyo until March 1944, however, and in May of that year operational data was made available for shipment to Japan. It is believed that manufacturing drawings were on board the U-boat U-864 that was sunk off the coast of Norway by a British submarine in February 1945 while en route to Japan.

Finally, in post-war years, speculation has persisted as to the Me 264 being intended as a carrier for a German atomic bomb. The facts are that by the time German scientists were in a position to conduct a final criticality experiment on a uranium pile, it was late February 1945. By this time, however, of the two completed aircraft capable of *delivering* an atomic bomb to New York and returning, the Me 264 V1 had been destroyed by Allied bombing seven months earlier and the Ju 390 V1



In the spring of 1944, Willy Messerschmitt sketched over this general arrangement drawing of the Me 264, originally produced in May 1943, in order to illustrate his concept of installing either jet engines or pusher propellers mounted on a sweptback wing.

Messerschmitt's dream turned into reality? Convair B-36D-5-CF 49-2652 *PETTY GIRL* of the 7th Bomb Group (Heavy) was photographed at Carswell Air Force Base, Texas, in the 1950s. The B-36 was the largest mass-produced piston-engined aircraft ever built, having the longest wingspan at just over 70m. The aircraft's six piston engines were augmented on the sweptback wing by four General Electric J47 jet engines. It had a combat radius of 6,415km.

was languishing at Dessau without any propellers. The latter aircraft was destroyed by the Americans in April 1945. Any plans to progress with the unfinished airframes of the Me 264 V2 and V3 came to nothing following the order in January 1945 to abandon further work on them.

On 6 August 1945, a B-29 dropped an atomic bomb on the Japanese city of Hiroshima. Three days later a second B-29 dropped another such bomb on Nagasaki. Shortly thereafter, Japan surrendered. After the war, B-29s were adapted for several functions, including in-flight refuelling, anti-submarine patrols, weather reconnaissance and air-sea rescue missions. The B-29 saw service again in Korea between 1950 and 1953, encountering jet fighters and electronic weapons. The last Superfortress retired from service in September 1960.

The reality was that the Me 264 was a technically ambitious, mechanically acceptable and militarily feasible aircraft (if only in the reconnaissance role), but it remained little more than a curio that was a fixture on high-level discussion agendas for most of the war.

FURTHER READING

In writing this book, I have endeavoured to encapsulate the salient details of the Me 264's fascinating origins, development and flight-test history. However, those readers wishing to know more about the aeroplane are recommended to look for my earlier volume, *Me 264 Amerika Bomber – The Luftwaffe's Lost Transatlantic Bomber*, published by Classic Publications (Hersham) in 2006.

By far, the mass of information on the aircraft was drawn from the original records of Messerschmitt A.G., either in private collections or held on microfilm within the Imperial War Museum in London, as well as from documents held at the UK National Archives at Kew and other archives in the UK, Germany and the USA.

A full bibliography is available in my earlier book, but the following published works were particularly valuable and are recommended:

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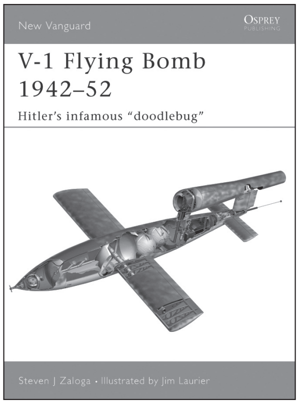
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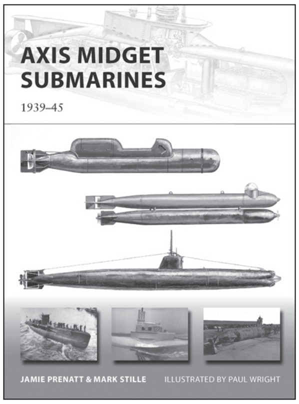
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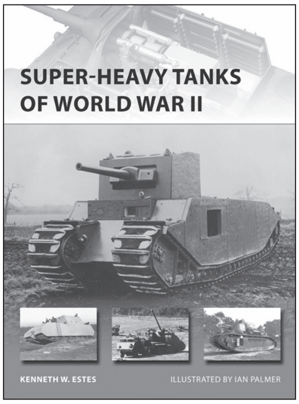
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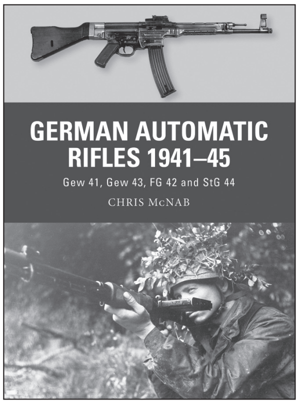
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